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AGE, SEX, AND SIZE OF YUKON RIVER SALMON CATCH AND ESCAPEMENT, 1986

By:
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December 1987

ALASKA DEPARTMENT OF FISH AND GAME
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Don W. Collinsworth
Commissioner

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Technical Data Report No. 221
Alaska Department of Fish and Game
Division of Commercial Fisheries
Anchorage, Alaska

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ABSTRACT

Commercial and subsistence harvest of chinook (*Oncorhynchus tshawytscha* Walbaum), summer and fall chum (*O. keta* Walbaum), and coho salmon (*O. kisutch* Walbaum) for the Yukon River in 1986 are presented by age, sex, fishing district and gear type. Escapement counts and age, sex, and size composition data are presented for those stocks sampled in 1986. Poorer than expected chinook salmon production from large escapements in 1980 was apparent from the weaker than normal contribution by age-1.4 fish to catch and escapement samples in 1986. Summer chum salmon, which are primarily age 0.3 in most years, were predominantly age 0.4 as a result of very strong escapements in 1981. Fall chum salmon fishery catch samples were 73% age 0.3, while escapement samples ranged from 41% to 81% age 0.3, and from 15% to 50% age 0.4, for the various spawning areas sampled. Coho salmon catch and escapement samples were 89% and 84% age 2.1, respectively.

KEY WORDS: Yukon River, chinook salmon (*Oncorhynchus tshawytscha*), chum salmon (*O. keta*), coho salmon (*O. kisutch*), age classification, catch, escapement

INTRODUCTION

The Yukon River drainage supports major runs of chinook salmon (*Oncorhynchus tshawytscha* Walbaum), summer and fall chum salmon (*O. keta* Walbaum), and coho salmon (*O. kisutch* Walbaum). These species contribute to commercial and subsistence fisheries throughout the Yukon River drainage. Pink salmon (*O. gorbuscha* Walbaum) and sockeye salmon (*O. nerka* Walbaum) are also indigenous to the Yukon River drainage. Pink salmon returns are stronger in even-numbered years, while sockeye salmon are only rarely documented, and neither species is harvested by commercial or subsistence fishermen to any extent. Summer chum salmon are distinguished from fall chum salmon by their earlier entry timing into the Yukon River (early June to mid-July), smaller size, lower oil content, and spawning distribution in the lower and middle portion of the Yukon River drainage. Fall chum salmon enter the Yukon River from mid-July to early September, and spawn in the upper portion of the drainage.

The Yukon Area includes all waters of the Yukon River and its tributary streams in Alaska (Figure 1) and the Yukon Territory, Canada (Figure 2), and all coastal waters from Canal Point light near Cape Stephens southward to the Naskonat Peninsula. The Alaska portion of the river is divided into six fishing districts as follows: Districts 1, 2, and 3 in the Lower Yukon Area; and Districts 4, 5, and 6 in the Upper Yukon Area. Commercial fishing occurs throughout the mainstem Yukon River and in the lower 360 km (225 mi) of the Tanana River. Most of the commercial harvest is taken in Districts 1 and 2. Set and drift gill nets are the legal gear in the lower Yukon, and set gill nets and fish wheels in the upper Yukon. Chinook and fall chum salmon are also commercially harvested in a predominantly gill net fishery near Dawson City, Yukon Territory, where some fish wheels are also used. Subsistence fishing is allowed throughout the drainage with most of the effort concentrated in the mainstem Yukon River. The Yukon Area Annual Management Report (ADF&G 1987) provides a complete description of the Yukon Area and its fisheries.

Most commercial fishing occurs in the lower 230 km (200 mi) of the river, where the harvest consists of mixed species and stocks of salmon bound for spawning areas throughout the Yukon River drainage. Resource management agencies, primarily the Alaska Department of Fish and Game (ADF&G) and the Department of Fisheries and Oceans, Canada (DFO), conduct a variety of programs that supply information used to manage and document the fisheries. These programs include: (1) documentation of catch in each fishery; (2) catch sampling for age, sex, and size data; (3) assessing the magnitude of spawning escapements by aerial and ground surveys, hydroacoustic counters, towers, weirs, and visually through a fishpass; and (4) sampling major spawning escapements for age, sex, and size data. Total run estimates are obtained by ADF&G using hydroacoustic counters in the mainstem Yukon River near Pilot Station, and by DFO using tag and recapture methods at the US/Canada border.

Between 1969 and 1981 Yukon River salmon age, sex, and size sample data summaries were annually reported in the ADF&G Arctic-Yukon-Kuskokwim Region Age, Sex, and Size Composition of Salmon Report Series. Since 1982 the composition of Yukon River salmon catches and escapements by age, sex, and

size have been reported by McBride, Hamner, and Buklis (1983), and by Buklis and Wilcock (1984, 1985, and 1986).

This report presents Yukon River salmon commercial harvests, subsistence harvests, and enumerated spawning escapements in numbers of fish by age and sex for 1986. Indices of relative abundance and age and sex summaries are presented for other major spawning escapements. Length is reported by age and sex for each sampled fishery and escapement. No attempt has been made in this report to identify the origin of fish in mixed stock fisheries or to estimate the contribution of any spawning stock to a fishery.

The data presented here constitute the fundamental biological information necessary to regulate Yukon River salmon fishery harvests and monitor the status of the spawning stocks.

METHODS

Abundance of Catch and Escapement

Alaskan commercial catch data presented in this report were compiled by the Division of Commercial Fisheries for each management district and were based on computer tabulations of individual harvest receipts (fish tickets). Subsistence catch data were tabulated from personal interviews of subsistence fishermen in selected villages and from mail-in questionnaires. The District 4 summer chum salmon commercial catch included an estimate of unused males that were a by-product of the commercial summer chum salmon roe fishery in this district. Methods of estimation are discussed in the 1986 Yukon Area Annual Management Report (ADF&G 1987).

Gear types used to harvest salmon in the subsistence fishery were not accurately documented for the Upper Yukon Area, where both gill nets and fish wheels are used. Subsistence catches by gear type were subjective estimates (F.M. Andersen, ADF&G, Fairbanks, personal communication) due to lack of adequate gear survey information. All Yukon Territory catch data were obtained from DFO. Canadian catch is reported here as entirely by gill net, although an unknown portion of the commercial and subsistence harvest is taken by fish wheels. DFO does not provide harvest data by gear type. Gill nets are thought to account for the majority of both the chinook and chum salmon harvest in the Yukon Territory.

Most escapement data were peak aerial survey estimates for selected spawning streams. An effort was made to survey the major spawning populations and these indices are believed to represent overall trends in escapement. Additional escapement estimates were obtained by other methods as follows:

1. Summer chum, chinook, and pink salmon escapement to the East Fork Andreafsky River was enumerated by ADF&G using counting towers (Buklis 1986).

2. Summer chum salmon escapement to the Anvik River (Buklis 1986) and fall chum salmon escapement to the Sheenjek River (Barton, *in press*) was enumerated by ADF&G using side-scanning sonar counters.

3. Fall chum salmon escapement to the Chandalar River was enumerated by the United States Fish and Wildlife Service (USFWS) using side-scanning sonar counters (Simmons, *in press*).

4. Chinook salmon escapement to Clear Creek was enumerated by ADF&G (Barton 1987b) using a weir, while DFO used weirs to enumerate the chinook salmon escapement to the Big Salmon River and the fall chum salmon escapement to the Fishing Branch River.

5. Chinook salmon passing the Whitehorse Dam in Yukon Territory, Canada were visually counted by DFO as they ascended a fishpass.

6. Fall chum salmon escapement to the Toklat and Delta Rivers was estimated by ADF&G from ground surveys and stream residency time expansion factors.

7. A hydroacoustic counting site was operated by ADF&G on the mainstem Yukon River at mile 123 to obtain total salmon population estimates by species (Thompson, *in press*).

8. A chinook salmon tag and recapture study was conducted by ADF&G (Barton 1987a) in the Chena River to obtain a spawning escapement estimate, while a chinook and fall chum salmon tag and recapture study was conducted by DFO just upstream from the US/Canada border to obtain population estimates for the Canadian portion of the drainage, excluding the Porcupine River.

Age, Sex, and Length

Salmon were sampled for scales, sex, and length. The annuli on the scales provided age information for salmon in the catch and escapement. Scales were taken from the left side of the fish approximately two rows above the lateral line along the diagonal from the posterior insertion of the dorsal fin to the anterior insertion of the anal fin (INPFC 1963). Scales were mounted on gum cards and permanent impressions made in cellulose acetate (Clutter and Whitesel 1956). Vertebrae were sampled from fall chum salmon escapement samples in the Alaska portion of the drainage as an alternate source of age information due to frequent resorption of scale margins for those stocks. Ages are reported in European notation. The first digit of the European formula refers to the number of freshwater annuli present on scales of the fish and represents the number of years of freshwater residence minus one (freshwater residence prior to scale formation). The second digit refers to the marine age of the fish. Total age is the sum of these two numbers plus one. Sex determination was based on examination of either external morphological features or gonads.

An attempt was made to sample fish from the commercial catch for each gear type in each district. However, because of the logistics involved in sampling such a widely dispersed fishery, many of the smaller harvests were not sampled. The majority of the commercial catch samples were collected in Districts 1 and 2. Subsistence catches were generally not sampled. Age and sex composition of subsistence harvests for a given district and gear type were based on commercial catch samples taken by that gear type in the same

or, in some cases, a neighboring district. An attempt was made to sample the major chinook and chum salmon spawning populations. Most escapement data were collected from carcasses, although live salmon were sampled at the Clear Creek weir and were captured by beach seine at the East Fork Andreafsky, Anvik, and Sheenjek Rivers.

Age and sex composition was estimated for each sampled fishery with a stratified systematic sampling design (Cochran 1977). Strata were defined as weekly periods (generally two fishing periods per week) for District 1 and 2 chinook salmon, and also for District 1 summer chum, fall chum, and coho salmon during that portion of the season when the majority of the harvest was taken. For the other districts and fisheries, time strata were of variable length depending on the number of samples collected. An attempt was made to sample a sufficient number of fish within a strata to simultaneously estimate the true proportion of each major age class in the catch within $\pm$ 5 percentage points 90% of the time.

Age compositions and associated variances were estimated with procedures outlined by Cochran (1977) for stratified sampling programs:

$$C_{tj} = C_t P_{tj} \qquad V[C_{tj}] = (C_t)^2 \cdot \frac{P_{tj}(P_{tj}-1)}{N_{t-1}}$$

$$C_{.j} = \sum_{t=1}^{T} C_{tj} \qquad V[C_{.j}] = \sum_{t=1}^{T} V[C_{tj}]$$

Where: C_t = Number of fish caught in stratum t,

P_{tj} = Fraction of sample in stratum t of age j,

N_t = Number of samples during stratum t,

C_{tj} = Estimated number of fish of age j during stratum t,

T = Total number of strata,

$C_{.j}$ = Estimated number of fish of age j for the season, T.

If there were insufficient samples to attain the above levels of precision and accuracy, the samples were pooled into a single sample period for that fishery or escapement. Catch or escapement by age and sex was then estimated. For those escapement samples with only aerial survey indices of abundance, sample data were presented, but indices of abundance were not estimated by age and sex.

Lengths were measured from mid-orbit to fork of tail to the nearest 5 millimeters. Some samples collected in Yukon Territory by DFO were measured from tip of snout to fork of tail, or from post orbit to hypural plate. These samples are footnoted accordingly in the appropriate tables. Average length, by age and sex, was reported for each sampled fishery and escapement. Length samples were not stratified by sample period.

RESULTS

Commercial and Subsistence Harvest

Commercial harvest (Alaska and Canada combined) totaled 110,767 chinook, 1,082,508 summer chum, 151,483 fall chum, and 47,255 coho salmon in 1986 (Table 1). The summer chum salmon commercial harvest figure includes an estimated 89,348 unused males taken in the District 4 roe fishery. The chinook salmon harvest was 30% below that of 1985, the summer chum salmon harvest (excluding unused males) was 30% above, the fall chum salmon harvest was 50% below, and the coho salmon harvest was 18% below the 1985 level. The chinook, summer chum (excluding unused males), fall chum, and coho salmon commercial harvests in the Alaska portion of the drainage in 1986 were 28% below, 17% above, 53% below, and 11% above the recent 5-year (1981-85) average, respectively.

Fishermen in the Alaska portion of the drainage received an estimated $6,249,000 for their catch in 1986, similar to the 1981-85 average. The largest commercial harvests of chinook, fall chum, and coho salmon occurred in District 1, while District 4 accounted for the largest summer chum salmon harvest. Gill nets accounted for the majority of the harvest for each species. Commercial harvest and catch per unit effort by species and fishing period is presented for each district in Appendix Tables 1-7.

Subsistence harvest (Alaska and Canada combined) totaled 54,549 chinook, 290,888 summer chum, 167,106 fall chum, and 34,770 coho salmon in 1986 (Table 2). The chinook salmon harvest was 18% above that of 1985, summer chum salmon 10% above, fall chum salmon 21% below, and the coho salmon harvest 7% above the 1985 level. The chinook, summer chum, fall chum, and coho salmon subsistence harvests in the Alaska portion of the drainage in 1986 were 19% above, 21% above, 8% below, and 6% above the 1981-85 average, respectively.

The largest chinook and fall chum salmon subsistence harvests occurred in District 5, the largest summer chum salmon harvest in District 4, and the largest coho salmon harvest in District 6. Fish wheels accounted for the majority of the summer chum, fall chum, and coho salmon subsistence harvests, while the majority of the chinook salmon were taken by gill net.

Escapement Abundance

Escapement objectives have been established by ADF&G for the major spawning populations of chinook, summer chum, and fall chum salmon for which a sufficient data base exists (ADF&G 1987). Most escapement objectives are based on historical aerial survey indices of abundance, and are subject to change as more complete information becomes available. Yukon River salmon

spawning escapement index counts and population estimates for all areas monitored in 1986 are presented in Table 3. Daily sonar, weir, and fishpass salmon escapement counts are presented in Appendix Tables 8-14.

Chinook salmon spawn in tributary streams throughout the Yukon River drainage (Figure 3). Chinook salmon escapement objectives have been established for the East (1,100-1,600) and West Fork (700-1,000) Andreafsky, Anvik (300-500), North (500) and South (500) Fork Nulato, Chena (1,000-1,700), and Salcha (1,500-3,500) Rivers.

Weather conditions were only intermittently favorable for aerial surveys of chinook and summer chum salmon escapements in the lower portion of the Yukon River drainage in 1986. However, cloud cover, rain, and high water affected survey results in the middle and upper (Canadian) portions of the drainage.

Escapement objectives were achieved for all streams in the Alaska portion of the drainage for which objectives have been established. The Andreafsky River (East and West Forks combined) aerial survey count of 5,112 chinook salmon was the largest ever recorded. The aerial survey count for the Nulato River of 2,974 chinook salmon was triple the objective. Indications of above-average chinook salmon escapements to the Koyukuk River drainage are reflected by aerial survey counts for the Gisasa River (1,346), Henshaw Creek (561), and the South Fork Koyukuk River (556). The 1986 chinook salmon counts are among the highest ever documented in these streams.

Chinook salmon escapements to the Canadian portion of the drainage in 1986 were similar to those observed in 1985, and below desired levels. Peak counts in 1986 were 745 and 703 chinook salmon for index areas in the Big Salmon and Nisutlin Rivers, respectively. The Whitehorse fishway count was 557 chinook salmon, which includes 150 fish taken for hatchery brood stock. The DFO spawning escapement population estimate was 16,715 chinook salmon for the Yukon River drainage in Canada for 1986. This was an improvement from the 1985 estimate of approximately 10,800 fish, but still well below the objective of 33,000 to 43,000 fish as established by the US/Canada Joint Technical Committee.

Spawning primarily in streams tributary to the lower Yukon, Koyukuk, and Tanana Rivers (Figure 4), escapement objectives have been established for summer chum salmon in the East (76,000-109,000) and West Fork (62,000-116,000) Andreafsky, Anvik (487,000 sonar counts), North Fork Nulato (37,000-53,000), Hogatza (10,000-17,000), and Salcha (3,500) Rivers. Summer chum salmon escapement objectives were achieved for most spawning areas in 1986. Aerial survey counts for the East and West Fork of the Andreafsky River were 83,931 and 99,373 summer chum salmon, respectively, while the tower count estimate for the East Fork was 167,614 fish. The Anvik River sonar escapement count of 1,189,602 summer chum salmon was more than double the escapement objective. Escapement to the Salcha River was double the objective for that stream, based on a peak aerial survey count of 8,028 summer chum salmon.

Fall chum salmon spawn in spring fed upwelling areas in streams and sloughs in the upper portion of the Yukon River drainage (Figure 5). Population escapement objectives have been established for the Sheenjek (62,000), Fishing Branch (48,000), Toklat (33,000), and Delta (11,000) Rivers.

Fall chum salmon escapements in 1986 showed a marked improvement for most index areas as compared to the poor escapements of 1982-1984, but were not as strong as the 1985 escapement levels. Escapement population estimates of 83,197 fall chum salmon for the Sheenjek River, 31,173 for the Fishing Branch River, 18,903 for the upper Toklat River, and 6,703 for the Delta River in 1986 were 34% above, 35% below, 43% below, and 39% below the escapement objectives for each of these streams, respectively. Delayed opening of the lower Yukon River commercial fishery may have shifted exploitation to the Tanana drainage stocks, which are thought to be later running than Porcupine and upper Yukon drainage stocks.

Comprehensive enumeration of fall chum salmon with side-scanning sonar was undertaken on the Chandalar River for the first time in 1986. The USFWS estimate was 59,313 fall chum salmon. The DFO spawning escapement estimate was 87,990 fall chum salmon for the mainstem Yukon River drainage in Canada (excluding the Porcupine River drainage) in 1986. This was an improvement over the 1985 estimate of approximately 59,000 fish, but still slightly below the objective of 90,000 to 135,000 fish as established by the US/Canada Joint Technical Committee.

Coho salmon spawn in widely scattered tributaries throughout the Yukon River drainage, although the major concentrations have been documented in the Tanana River drainage (Figure 6). Coho salmon escapement counts are generally obtained ancillary to fall chum salmon escapement survey priorities, therefore a comprehensive data base does not exist. Coho salmon escapements in 1986 appeared near average or slightly below average for spawning areas in the Nenana River drainage, while they were above average in the upper Tanana River spawning areas.

Age, Sex, and Length Composition

Age, sex, and length composition of Yukon River salmon catches and escapements in 1986 are presented separately for each species.

Chinook Salmon:

Age composition of the entire Yukon River harvest of 165,316 chinook salmon in 1986 was estimated to be 41% age 1.4, 27% age 1.3, 24% age 1.5, and 4% age 1.2, with several other age classes present in small proportions (Table 4, Appendix Tables 15-28). Females accounted for an estimated 46% of total river harvest. Weaker than normal contribution by age 1.4 and stronger than normal contributions by ages 1.3 and 1.5 in 1986 indicate relatively poor production from large chinook salmon escapements in 1980.

District 1 and 2 combined commercial and subsistence gill net catches comprised 65% of the total river harvest. Age and sex composition differed between unrestricted mesh and 6-in (15.2 cm) maximum mesh size fishing periods in Districts 1 and 2 (Appendix Tables 16 and 18), as has been observed in previous years. Females accounted for only 25% to 40% of the catch for restricted mesh size sample periods, while they accounted for 43% to 56% of the catch for unrestricted mesh size sample periods. Age 1.4 was the largest contributor to catches in the unrestricted mesh size sample periods (44% to 48%), while age 1.3 predominated restricted mesh catches (47% to 52%).

Subsistence gill net harvests in Districts 1, 2, 3, and Canada were not sampled. Since these fisheries utilize the same gear types and occur concurrently with the commercial fisheries in these districts, commercial harvest age and sex frequencies were applied to the subsistence harvests (Appendix Tables 25-28). Because of the significant intermixing of commercial and subsistence gill net and fish wheel catches by fishermen in Districts 4 and 6, estimates for both gear types and fisheries were pooled and assumed to be self-weighting for each of these districts (Appendix Tables 20 and 23). More intensive sampling effort in District 5 allowed for separate catch age and sex composition estimates by gear type, although commercial and subsistence catches were pooled for each gear type. Results indicate that fish wheels captured a greater proportion of younger male fish than did gill nets. The District 5 gill net catch sample was 51% female and 41% age 1.4, while the fish wheel catch sample was only 35% female and 27% age 1.4 (Appendix Tables 21 and 22).

Mean size of chinook salmon age groups in the District 1 commercial gill net catch ranged from 552 mm for age-1.2 to 943 mm for age-1.5 males, and from 762 mm for age-1.3 to 948 mm for age-2.5 females (Table 5). Size of chinook salmon in the District 5 combined commercial and subsistence fish wheel catch ranged from 515 mm for age-1.2 to 982 mm for age-2.5 males, and from 585 mm for age-1.2 to 892 mm for age-2.5 females. Other catch samples exhibited size frequencies within the range of the samples from Districts 1 and 5 (Table 5).

Age, sex, and size composition of chinook salmon samples collected in 1986 but not applied to fishery catches or escapements is presented in Appendix Table 29.

Age-1.4 fish in lower Yukon River escapements (Table 6) were generally in lower abundance (22%, 38%, and 31% for the Andreafsky, Anvik, and Nulato Rivers, respectively), and age-1.3 fish were in higher abundance (70%, 50%, and 50% for each of these rivers, respectively) than in lower river commercial catches. Females accounted for only 23% of the Andreafsky River sample, while they accounted for 63% of the sample for both the Anvik and Nulato Rivers.

Escapement samples from the Jim, Chena, and Salcha Rivers, tributaries of the Middle Yukon River, were similar in age composition to lower river samples (Table 6). However, females accounted for only 25% to 40% of the samples collected from these spawning areas.

Escapements in the Canadian portion of the drainage had more older fish and more females than escapements in the other regions (Table 6). Ages 1.4 and 1.5 were the most abundant age groups, accounting for a combined 53% to 61% of escapements to the three major upper Yukon River spawning tributaries: the Big Salmon, Little Salmon, and Nisutlin Rivers. Females contributed between 55% and 84% of all samples collected from these three spawning areas. The occurrence of fish with two freshwater annuli was much greater in the Upper Yukon River spawning streams than in other regions of the drainage. For example, 31% of the Nisutlin River escapement sample was age 2.4 in 1986.

Average size of male chinook salmon in Yukon River escapements ranged from 390 mm for age-1.1 fish from the Salcha River to 1,032 mm for age-1.5 fish from the Teslin River in Canada (Table 7). Average size of females ranged

from 460 mm for age-1.2 fish from the Anvik River to 955 mm for age-2.5 fish from the mainstem Yukon River in Canada.

Summer Chum Salmon:

Summer chum salmon were sampled from the District 1 commercial gill net fishery, and District 4 and 6 commercial fish wheel fisheries in sufficient numbers to permit estimates of harvest by age and sex. Harvest estimates for Districts 2 and 3 by age and sex were based on the composition of the District 1 sample. Age and sex composition estimates for commercial gill net harvests in Districts 4, 5, and 6, and fish wheel harvest in District 5 could not be estimated because of a lack of appropriate sample data. Subsistence harvest age and sex composition was estimated using the commercial catch sample for that district and gear type, when available. The number of summer chum salmon harvested by age, sex, and fishery for the entire drainage is presented in Table 8, while age and sex composition for each fishery is presented by sample period in Appendix Tables 30-39. Age, sex, and size composition of samples collected but not applied to fishery catches or escapements is shown in Appendix Table 40.

Age and sex composition for 93% of total drainage summer chum salmon harvest was estimated (Table 8). Age 0.4 accounted for 70% of total harvest, followed by ages 0.3 (29%), 0.5 (1%), and 0.2 (0.1%). Sex composition was 52% female. Age 0.3 typically accounts for the majority of the summer chum salmon harvest in most years. The very strong contribution by age-0.4 fish in 1986 is a result of good production from large escapements in 1981.

Age composition was not substantially different between districts or gear types. Females made a stronger contribution to upper river fish wheel catches than males, while the opposite was the case for lower river gill net catches. Average size by age and sex group did not differ substantially between districts or gear types (Table 9). These results are similar to those of previous years.

A temporal trend in age composition is apparent for the District 1 commercial gill net fishery (Appendix Table 30). As the season progressed age 0.4 declined in relative contribution while age 0.3 increased. This trend has been noted for most previous years with sufficient sample data.

The East Fork Andreafsky and Anvik Rivers were the only summer chum salmon escapements sampled in 1986 (Tables 10 and 11). Age composition differed for the two spawning stocks, with age 0.4 comprising an estimated 68% of the Anvik River escapement, and age 0.3 accounting for 61% of the Andreafsky River sample. Parent year escapement to the Anvik River was greater in 1981 than in 1982, while the opposite was the case for the Andreafsky River. Sex composition was 55% female for the East Fork Andreafsky River, 58% for the Anvik River.

Fall Chum Salmon:

Fall chum salmon were sampled from District 1 and Yukon Territory commercial gill net fisheries in sufficient numbers to permit estimates of harvest by age and sex. Harvests in Districts 2 and 3 were estimated by age and sex based on the composition of the District 1 sample. Age and sex composition

for commercial gill net and fish wheel harvests in Districts 4, 5, and 6 could not be estimated because of a lack of appropriate sample data. Age and sex composition of subsistence harvests were estimated by applying the commercial catch sample for that district and gear type, when available. The number of fall chum salmon harvested by age, sex, and fishery for the entire drainage is presented in Table 12, while age and sex composition for each fishery is presented by sample period in Appendix Tables 41-48. Age, sex, and size composition of samples collected but not applied to fishery catches or escapements is shown in Appendix Table 49.

Age and sex composition for 48% of the total drainage fall chum salmon harvest was estimated. Age 0.3 accounted for 73% of total harvest, followed by ages 0.4 (20%), 0.2 (6%), and 0.5 (0.4%). Sex composition was 58% female. Age composition of the lower river fishery harvest was affected by the complete closure of the fall chum salmon commercial fishery from July 16 through August 3. While the overall run was composed of an estimated 40% age 0.4 fish based on Big Eddy and Middle Mouth test fishing samples (Appendix Table 49), the delayed commercial fishery operated on that portion of the run dominated by age 0.3 fish.

A temporal trend in fall chum salmon age composition for the District 1 commercial gill net fishery, age 0.4 declining in relative contribution while age 0.3 increases as the season progresses, was evident in 1986. This trend had also been observed in 1985 (Buklis and Wilcock 1986).

Size of fall chum salmon in the District 1 commercial gill net catch ranged from 567 mm for age-0.2 to 617 mm for age-0.4 males, and from 557 mm for age-0.2 to 596 mm for age-0.4 females (Table 13).

Samples collected from test-fish fish wheels operated by ADF&G on the north and south bank of the Yukon River in Subdistricts 4B and 4C near Ruby demonstrated a difference (nonstatistical comparison) in age composition between stocks on the two banks (Appendix Table 49). Age 0.3 was predominant for both samples (56% and 71% for the north and south bank, respectively), but age 0.4 made a stronger contribution to the north bank sample (42%) than to the south bank sample (26%). A tagging study conducted from 1976 to 1978 indicated that there was a substantial difference in bank orientation between fall chum salmon stocks in District 4 (Buklis 1981). Fall chum salmon bound for the Porcupine and Upper Yukon (Canadian) spawning areas migrated predominantly along the north bank, while those bound for the Tanana River drainage migrated predominantly along the south bank of the Yukon River.

Age and sex samples were collected from spawning escapements to the Sheenjek, Toklat, and Delta Rivers in the Alaska portion of the drainage by ADF&G, and from the Fishing Branch, mainstem Yukon, and Kluane Rivers in Yukon Territory by DFO (Table 14). Age compositions ranged from 41% age 0.3 for the Sheenjek River to 81% age 0.3 for the Kluane River, and from 15% age 0.4 for the Delta River to 50% age 0.4 for the Sheenjek River. The relative proportion of age 0.4 in the escapements supports the differential age compositions previously described for north and south bank stocks in District 4 test-fish catches. Porcupine and Upper Yukon River escapements had a greater proportion of age-0.4 fish than did Tanana drainage stocks (nonstatistical comparison). Sex composition was variable, ranging from 47% female for the Toklat River to 71% female for the mainstem Yukon River in Canada.

Size of fall chum salmon by age and sex group was smaller (nonstatistical comparison) for the Toklat River samples than for the Sheenjek or Delta River samples (Table 15). Samples collected from spawning grounds in Canada by DFO were measured differently, and cannot be directly compared.

Coho Salmon:

Coho salmon were sampled from the District 1 commercial gill net fishery in sufficient numbers to estimate harvest by age and sex. Age and sex composition of harvests in Districts 2 and 3 were estimated based on the composition of the District 1 sample. A small commercial harvest of coho salmon in District 6 could not be estimated by age and sex because of a lack of appropriate sample data. Age and sex composition of the subsistence harvest was estimated based on the commercial catch sample for that district. The number of coho salmon harvested by age, sex, and fishery for the entire drainage is presented in Table 16, while age and sex composition for each fishery is presented by sample period in Appendix Tables 50-55. Age, sex, and size composition of samples collected but not applied to fishery catches or escapements is shown in Appendix Table 56.

Age and sex composition for 72% of the total drainage coho salmon harvest was estimated. Age 2.1 accounted for 89% of total harvest, followed by ages 3.1 (9%), and 1.1 (2%). Sex composition was 49% female. Average size by age class was similar between sexes for the commercial gill net catch sample (Table 17), but smaller for each age and sex group than in previous years.

A coho salmon escapement sample was collected from the Delta Clearwater River for the third consecutive year. Once again, age 2.1 predominated, accounting for 84% of the sample (Table 18). Females accounted for 45% of the escapement sample, similar to the sex ratio of the commercial catch sample.

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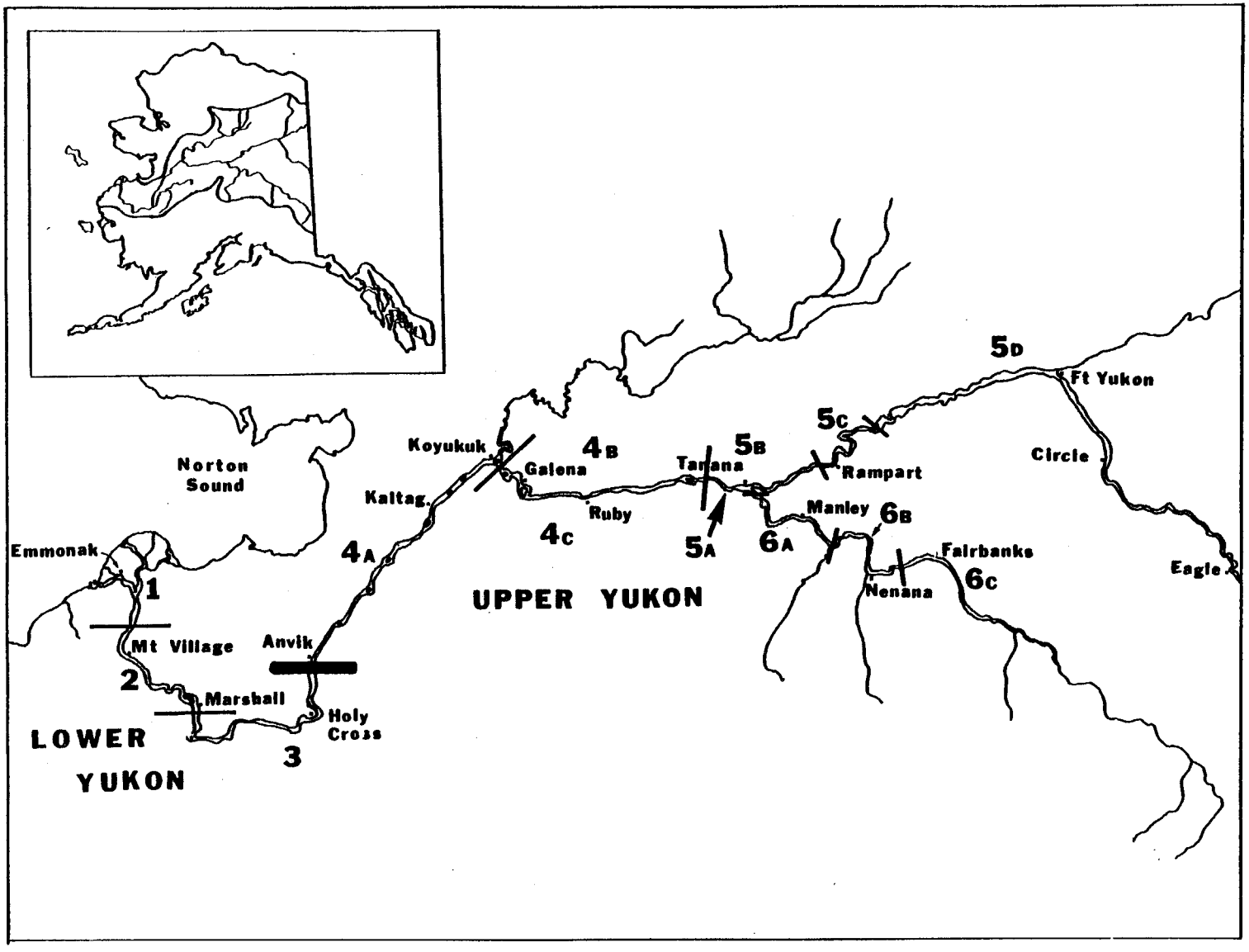

Figure 1. Map of the Alaskan portion of the Yukon River, showing fishing district boundaries.

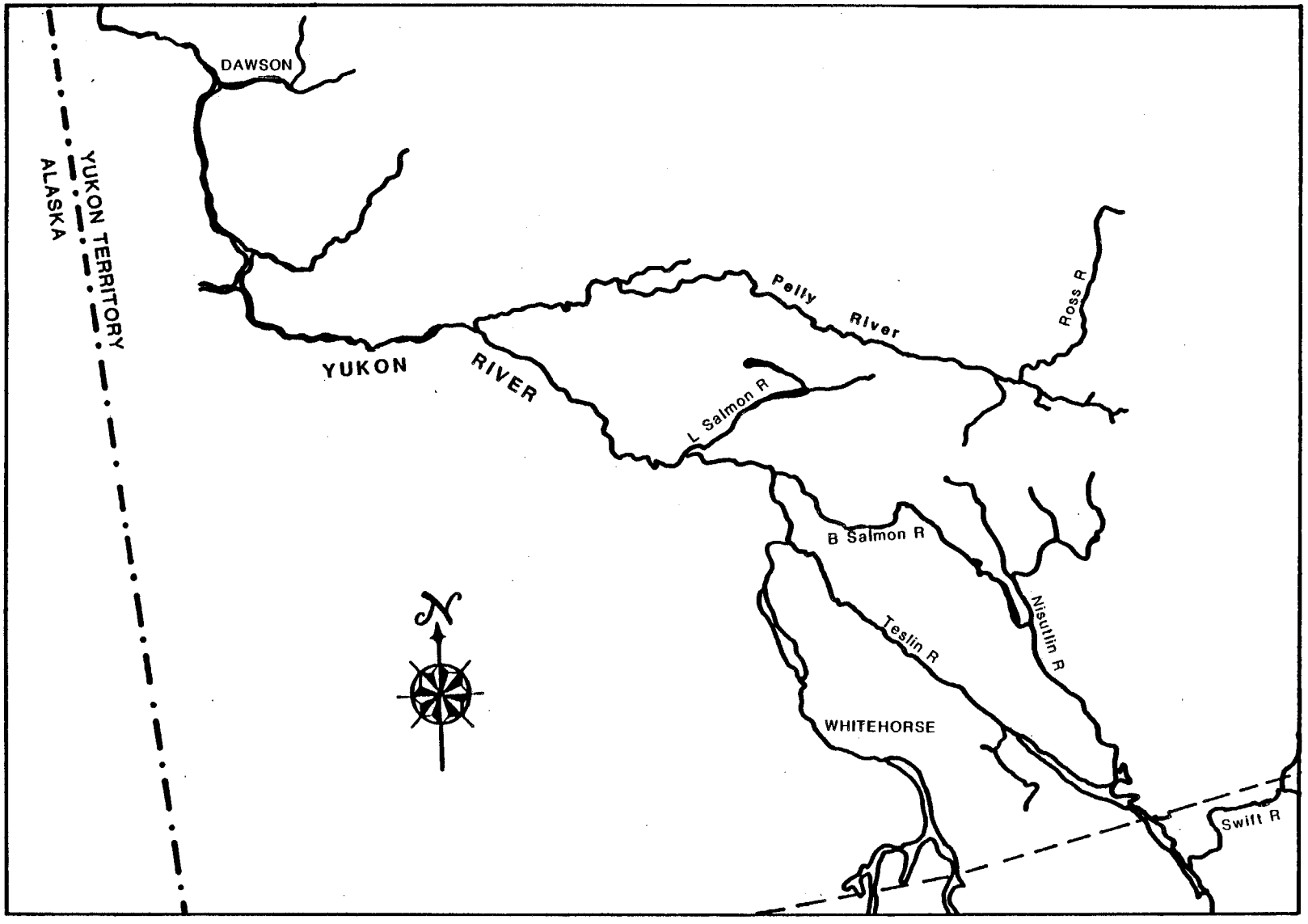

Figure 2. Map of the Canadian portion of the Yukon River.

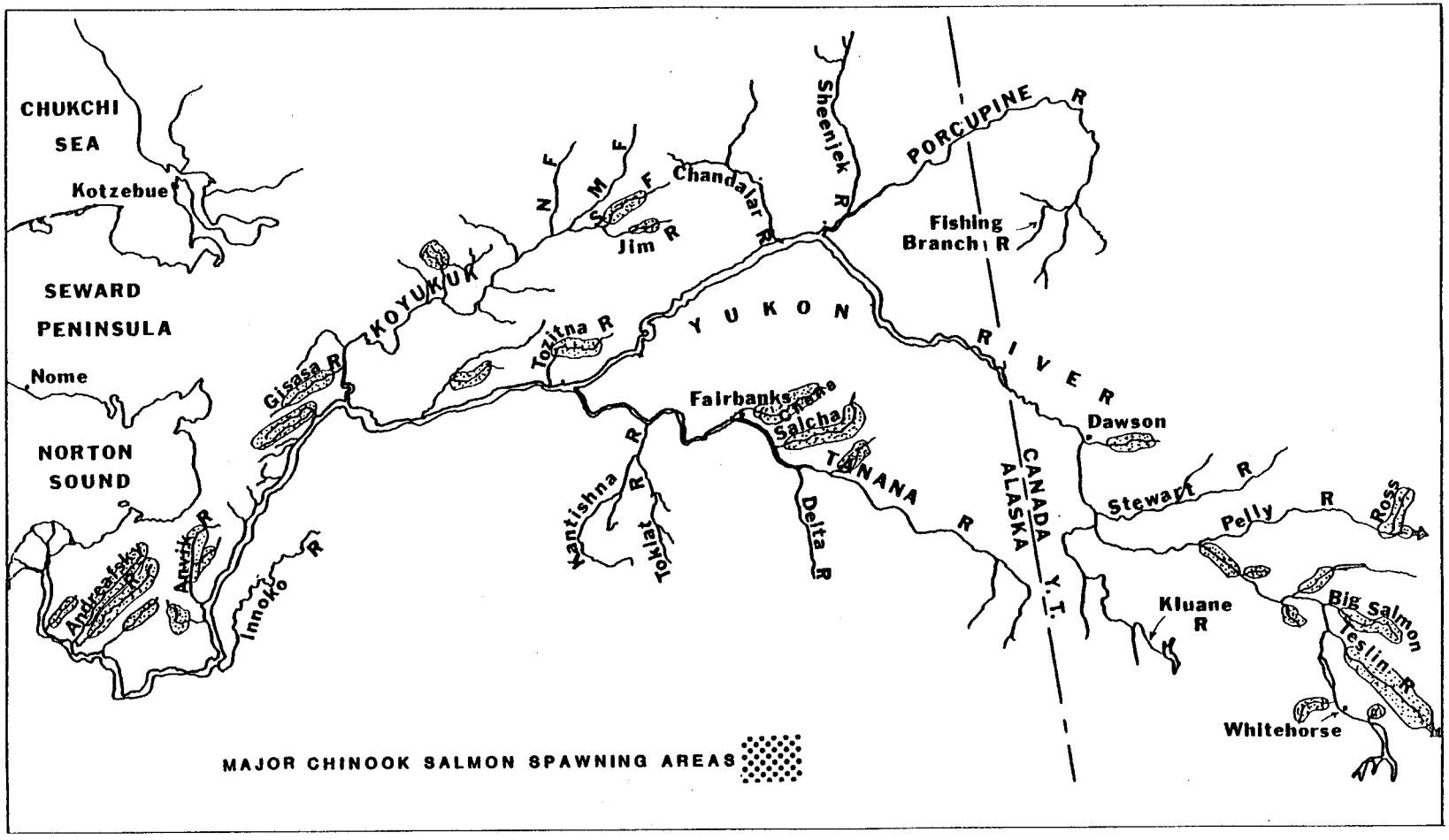

Figure 3. Chinook salmon spawning areas in the Yukon River drainage.

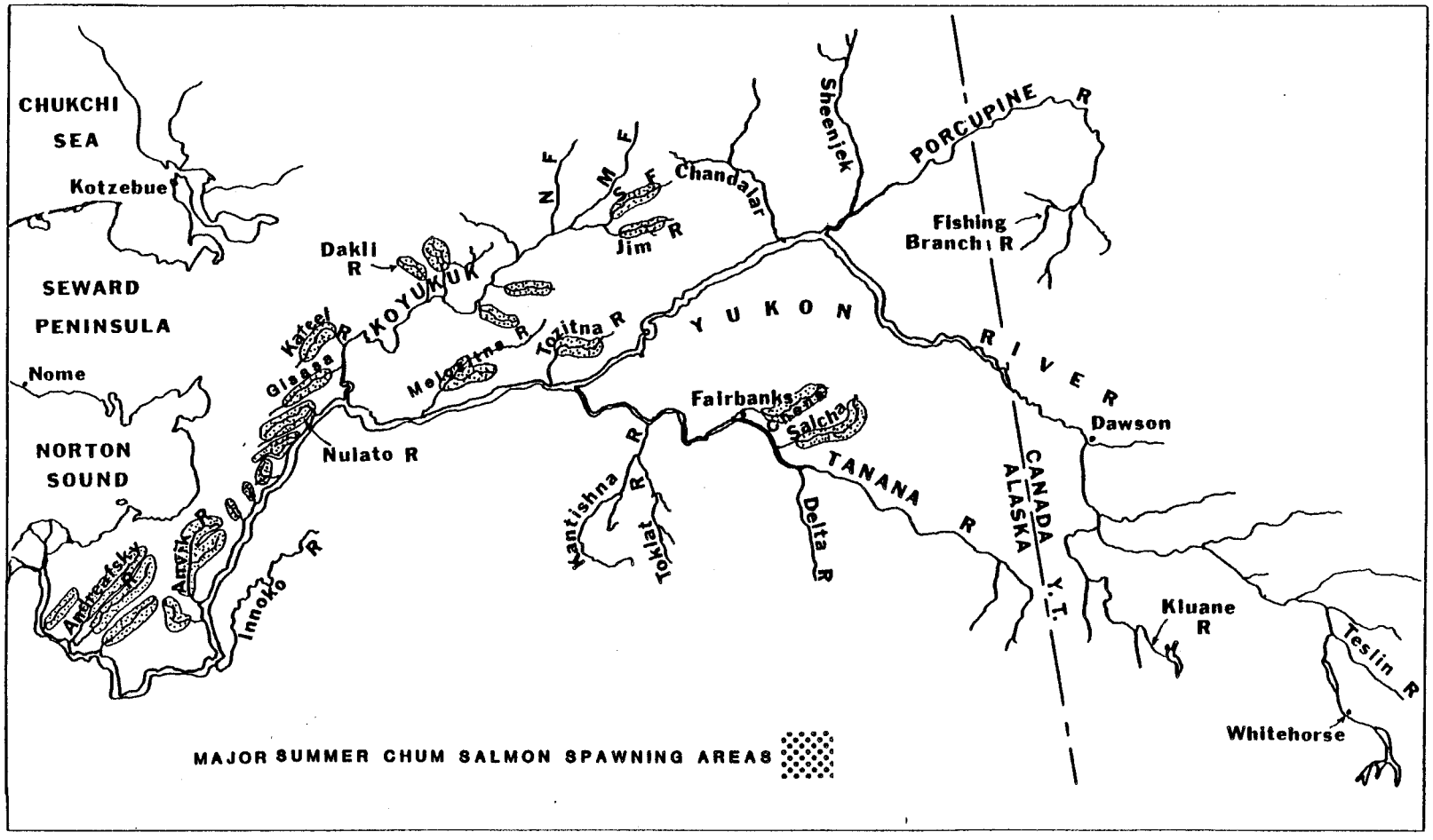

Figure 4. Summer chum salmon spawning areas in the Yukon River drainage.

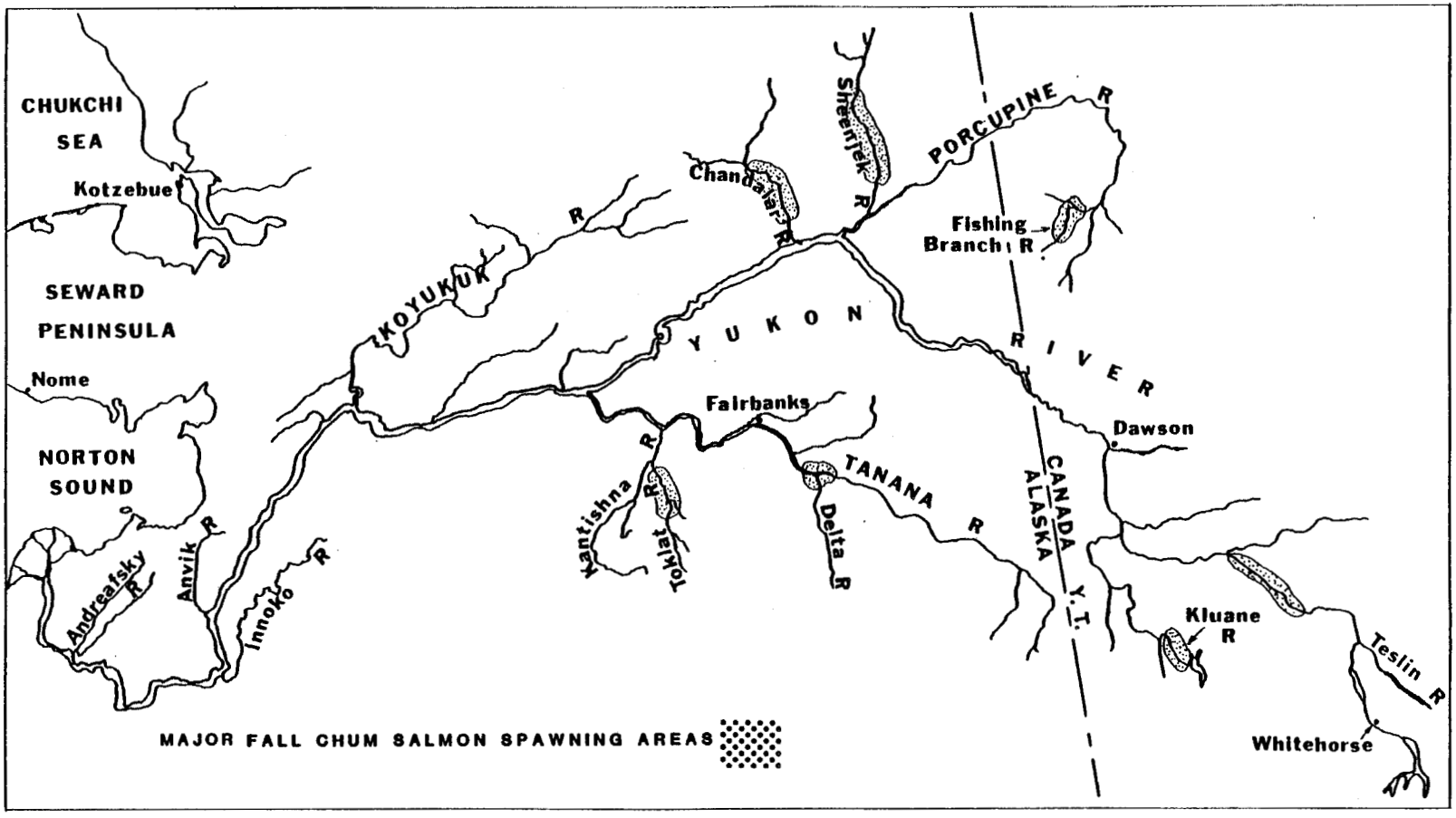

Figure 5. Fall chum salmon spawning areas in the Yukon River drainage.

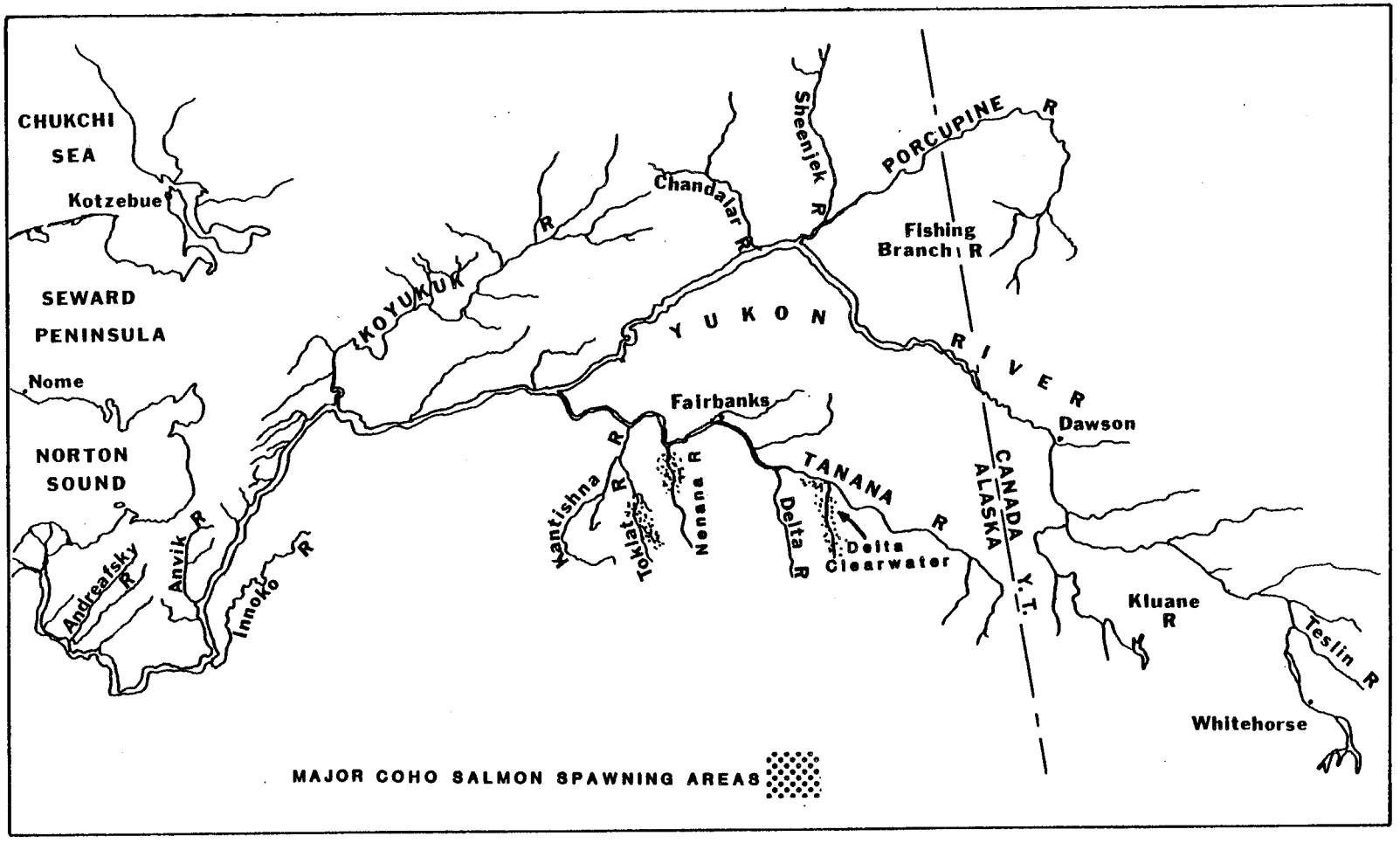

Figure 6. Coho salmon spawning areas in the Yukon River drainage.

Table 1. Yukon River salmon commercial catch in numbers of fish by district, species, and gear type, 1986.

	Chinook			Summer Chum[a]			Fall Chum[a]			Coho		
District	GN	FW	Total	GN	FW	Total	GN	FW	Total	GN	FW	Total
1	53,035	0	53,035	381,127	0	381,127	59,352	0	59,352	24,824	0	24,824
2	41,849	0	41,849	288,427	0	288,427	51,307	0	51,307	21,197	0	21,197
3	901	0	901	442	0	442	2,793	0	2,793	793	0	793
4A	11	0	11	30,926	205,930	236,856	0	0	0	0	0	0
4B	99	1	100	401	29,009	29,410	2,045	0	2,045	0	0	0
4C	94	297	391	19	3,560	3,579	0	0	0	0	0	0
4 Total	204	298	502	41,728[b]	317,465[b]	359,193[b]	2,045	0	2,045	0	0	0
5A	0	0	0	0	0	0	0	1,332	1,332	0	0	0
5B	642	910	1,552	86	596	682	942	11,360	12,302	0	0	0
5C	548	327	875	8	0	8	954	6,517	7,471	0	0	0
5D	228	78	306	0	0	0	0	1,343	1,343	0	0	0
5 Total	1,418	1,315	2,733	94	596	690	1,896	20,552	22,448	0	0	0
6A	0	0	0	2,359	2,338	4,697	0	176	176	0	30	30
6B	63	534	597	1,773	31,585	33,358	76	1,451	1,527	24	346	370
6C	21	332	353	1,096	13,478	14,574	0	371	371	0	41	41
6 Total	84	866	950	5,228	47,401	52,629	76	1,998	2,074	24	417	441
Ak Total	97,491	2,479	99,970	717,046	365,462	1,082,508	117,469	22,550	140,019	46,838	417	47,255
Canada	10,797	0	10,797	0	0	0	11,464	0	11,464	0	0	0
Total	108,288	2,479	110,767	717,046	365,462	1,082,508[c]	128,933	22,550	151,483[d]	46,838	417	47,255

[a] Includes "equivalent salmon" converted from roe sales in Districts 4, 5, and 6. Conversion factor of 1 pound (0.453 kg) roe equal to one chum salmon was used.

[b] District 4 summer chum salmon commercial catch totals include an estimated 89,348 fish harvested (10,382 by gill net and 78,966 by fish wheel) but not sold in the round, sold for roe, or used for subsistence purposes. These fish are essentially all males and are the by-product of the commercial summer chum salmon roe fishery in this district. Methods of estimation are discussed in the 1986 Yukon Area Annual Management Report (ADF&G 1987).

[c] Total commercial harvest of 1,082,508 summer chum salmon includes 2,146 fish harvested for roe in District 6 that may also be accounted for, to an unknown extent, in the subsistence harvest estimate.

[d] Total commercial harvest of 151,483 fall chum salmon includes 577 fish harvested for roe in Districts 5 and 6 that may also be accounted for, to an unknown extent, in the subsistence harvest estimate.

Table 2. Yukon River salmon subsistence catch in numbers of fish by district, species, and gear type, 1986.

	Chinook[a]			Summer Chum[b]			Fall Chum[c]			Coho[d]		
District	GN	FW	Total	GN	FW	Total	GN	FW	Total	GN	FW	Total
1	5,275	0	5,275	38,854	0	38,854	9,000	0	9,000	2,725	0	2,725
2	6,483	0	6,483	41,496	0	41,496	13,483	0	13,483	9,140	0	9,140
3	4,252	0	4,252	5,528	0	5,528	1,785	0	1,785	781	0	781
4	3,894	5,689	9,583	24,911	141,161	166,072	2,650	23,846	26,496	263	2,368	2,631
5	8,295	7,693	15,988	2,189	19,700	21,889	8,812	79,305	88,117	587	5,283	5,870
6	-[a]	-[a]	3,701	3,410	13,639	17,049	2,515	22,638	25,153	1,332	11,991	13,323
Ak Total	-[a]	-[a]	45,282	116,388	174,500	290,888	38,245	125,789	164,034	14,828	19,642	34,470
Canada	9,267	0	9,267	0	0	0	3,072	0	3,072	300	0	300
Total	-[a]	-[a]	54,549	116,388	174,500	290,888	41,317	125,789	167,106	15,128	19,642	34,770

[a] Subsistence catch of chinook salmon is not known by gear type, but was estimated for Districts 4 and 5 by applying the proportion caught by gear type in the commercial fishery in each District. No estimate was made for District 6.

[b] Subsistence catch is not known by gear type, but a subjective estimate is that fish wheels account for 85% of the District 4 summer chum salmon subsistence catch, 90% of the District 5 catch, and 80% of the District 6 catch.

[c] Subsistence catch is not known by gear type, but a subjective estimate is that fish wheels account for 90% of the fall chum salmon subsistence catch in Districts 4, 5, and 6.

[d] Subsistence catch is not known by gear type, but a subjective estimate is that fish wheels account for 90% of the coho salmon subsistence catch in Districts 4, 5, and 6.

Table 3. Yukon River salmon spawning escapement index counts and population estimates, 1986.[a]

Stream	Date	Survey Rating	Chinook	Summer Chum	Fall Chum	Coho	Pink
Andreafsky River							
East Fork (Tower Count)	6/25-7/14		1,530[b]	167,614[c]	--	--	124,618[b]
East Fork (Aerial Survey)	7/14	Fair	1,954	83,931	--	--	2,230
West Fork (Aerial Survey)	7/14	Good	3,158	99,373	--	--	--
Yukon R Sonar (Pilot Station)[d]	6/9-9/12		86,449	1,943,558	526,814	199,798	1,055,746
Anvik River Sonar Count[e]	6/21-7/15		--	1,189,602	--	--	--
Aerial Survey	7/28	Good	1,118	--	--	--	--
Nulato River	7/12,22	Fair	2,974	64,265	--	--	--
Koyukuk River Drainage							
Gisasa River	7/12,22	Fair-Good	1,346	12,114	--	--	--
Henshaw Creek	7/28	Fair	561	2,475	--	--	--
South Fork Koyukuk River	7/28,29	Good-Fair	556	1,576	--	--	--
Jim River	7/28,29	Good-Fair	238	869	--	--	--
Middle Fork Koyukuk River	7/29	Fair	49	--	--	--	--
Bettles River	7/29	Good	--	5	--	--	--
Melozitna River							
Fox Creek	7/12	Fair	--	90	--	--	--
Melozi Hot Springs Creek	7/22	Fair	5	2,958	--	--	--
Tozitna River	7/28	Good	222	1,778	--	--	--
Lower Tanana River Drainage							
Kantishna River Drainage							
Toklat River							
Barton Creek	7/27,10/17	Poor,Fair	5	--	50	496	--
Geiger Creek[f]	10/16	Fair	--	--	1,287	5	--
Sushana River	10/17	Good	--	--	711	2	--
Toklat Ri (vic Rdhse)	9/29	Good	--	--	10,710	0	--
Population Estimate[n]			--	--	18,903	--	--
Moose Creek	10/29	Fair	--	--	205	23	--
Nenana River Drainage							
Lost Slough	10/29	Fair	--	--	--	794	--
Seventeen Mile Slough[g,h]	8/2,10/29	Good,Poor	306	72	--	218	--
Julius Creek							
Clear Creek Weir Count	7/6-8/5		168[i]	79	--	--	--
Aerial Survey	7/27	Fair-Poor	47	--	--	--	--
Boat/Foot Survey[g]	10/8		--	--	1	605	--
Foster Creek[f,g]	10/8		--	--	1	30	--
Wood Creek Weir Count[g]	9/7-10/24		--	--	560[j]	1,664[k]	--
Chatanika River	8/9	Fair	79	190	--	--	--
Chena River Aerial Survey	8/4	Fair	2,031[l]	1,509	--	--	--
Population Estimate[m]			9,065	--	--	--	--
Salcha River	8/4	Good	3,368	8,028	--	--	--

- Continued -

Table 3. Yukon River salmon spawning escapement index counts and population estimates, 1986 (continued).[a]

Stream	Date	Survey Rating	Chinook	Summer Chum	Fall Chum	Coho	Pink
Upper Tanana River Drainage							
Bear Creek	8/11	Fair	6	--	--	--	--
Benchmark #735 Slough (vic)	10/30	Fair	--	--	33	--	--
Slough in vic Little Delta Ri	10/30	Fair	--	--	189	--	--
Slough in vic Delta Creek	10/30	Fair	--	--	15	--	--
Richardson Clearwater River	10/30	Poor	--	--	--	146	--
Vicinity of Andersen Slough	10/30	Fair	--	--	70	--	--
Delta River Aerial Survey	10/30	Good	--	--	5,967	--	--
Ground Survey	11/12	Fair	--	--	5,785	0	--
Population Est[n]	9/30-11/26		--	--	6,703	--	--
South Bank Tanana River	10/30	Poor	--	--	1,610	--	--
Bluff Cabin Slough[f]	11/4	Good	--	--	3,458	9	--
Bluff Cabin Spring[f]	10/17	Good	--	--	--	291	--
Clearwater Lake Outlet Slough	10/17	Good	--	--	475	--	--
Clearwater Lake and Outlet	10/17	Good	--	--	--	3,577	--
Delta Clearwater River[h,o]	11/20-21	Fair-Good	--	--	--	10,857	--
Onemile Slough	10/17	Good	--	--	1,949	300	--
Tanana slough adj to Onemile Sl	10/30	Fair	--	--	148	--	--
Tanana just upstr of Onemile Sl	10/17	Good	--	--	853	--	--
Tanana slough vic Gerstle River	10/30	Fair	--	--	108	--	--
Billy Creek Slough	10/30	Fair	--	--	556	--	--
Bear Creek[f]	7/11		--	56	--	--	--
Chandalar R Sonar Count[e,p]	8/9-9/27		--	--	59,313	--	--
Aerial Survey	7/29,10/7	Poor	19	--	4,035	--	--
Porcupine River Drainage							
Sheenjek R Sonar Count[e]	8/17-9/24		--	--	83,197	--	--
Aerial Survey	10/2	Poor	--	--	12,659	--	--
Fishing Branch R Weir Count[q]	9/1-10/9		--	--	31,173	--	--
Aerial Survey	10/4		--	--	7,836	--	--
Yukon Territory Streams							
Fortymile River[q,r]	9/12-18		1	7	--	--	--
Klondike River[q]	8/11	Poor	10	--	--	--	--
Stewart River							
McQuesten River[q]	8/17	Fair	0	--	--	--	--
White River[q]	10/27		--	--	0	--	--
Donjek River							
Kluane River[q]	10/27	Good	--	--	16,686	--	--
Tincup Creek[q]	8/20	Good	220	--	--	--	--
Koidern River[q]	10/27	Good	--	--	14	--	--

- Continued -

Table 3. Yukon River salmon spawning escapement index counts and population estimates, 1986 (continued).[a]

Stream	Date	Survey Rating	Chinook	Summer Chum	Fall Chum	Coho	Pink
Yukon Territory Streams (Continued)							
Pelly River							
Blind Creek[q,s]	8/?		25	--	--	--	--
Ross River[q]	8/18	Fair	72	--	--	--	--
Prevost River[q]	8/18	Fair	0	--	--	--	--
Tatchun Creek[f,q]	8/23	Good	155	--	--	--	--
Little Salmon River[q]	8/27	Poor	54	--	--	--	--
Big Salmon R Weir Count[q]	8/1-9/3		1,816	--	--	--	--
ADFG Aerial (Above Souch Cr)	8/21	Fair-Poor	745	--	--	--	--
Teslin River (mainstem)[q]	10/28	Fair	--	--	200	--	--
Nisutlin River	8/21	Good-Poor	703	--	--	--	--
Wolf River	8/21	Fair-Poor	271	--	--	--	--
Takhini River[q]	8/29	Fair	216	--	--	--	--
Whitehorse Fishway Counts[q]	7/7-8/30		557[t]	--	--	--	--
Mainstem Yukon River							
Vic Ft Selkirk to Carmacks[q]	10/7		1	--	825	--	--
Spawning Population Est[m,q]			16,715	--	87,990	--	--

a Peak aerial survey counts, including carcasses, unless indicated otherwise.
b This is an incomplete estimate as tower project ended early.
c This is an expanded season population estimate based upon the tower count and historic timing pattern.
d Biosonics Sonar.
e Bendix Side Scan Sonar.
f Foot survey.
g F.R.E.D. Division estimate.
h Boat survey.
i Includes 60 chinook used in a F.R.E.D. Division egg-take.
j None allowed to spawn wild.
k Includes 383 coho used in a F.R.E.D. Division egg-take.
l An additional 257 chinook carcasses were removed from river prior to this survey.
m Population estimate based upon mark and recapture study.
n Population estimate based upon replicate foot surveys.
o Sport Fish Division estimate.
p U.S. Fish and Wildlife Service (USFWS) estimate.
q Canada Department of Fisheries and Oceans (DFO) estimate.
r Test netting results.
s Periodic spot checks.
t Includes 150 chinook taken for hatchery brood stock of which 90 died prior to egg-take.

Table 4. Total utilization of Yukon River chinook salmon by age, sex, and fishery, 1986.

District	Fishery	Sample Size	Sex	Brood Year and Age Group 1983 1.1	1982 1.2	1981 1.3	1981 2.2	1980 1.4	1980 2.3	1979 1.5	1979 2.4	1978 2.5	Total
1	Commercial	2,032	Female	0	0	3,258	0	13,102	119	7,338	164	92	24,073
	Gill Net		Male	0	700	13,239	0	9,702	150	4,813	358	0	28,962
			Total	0	700	16,497	0	22,804	269	12,151	522	92	53,035
1	Subsistence	0	Female	0	0	324	0	1,303	12	730	16	9	2,394
	Gill Net		Male	0	70	1,316	0	965	15	479	36	0	2,881
			Total	0	70	1,640	0	2,268	27	1,209	52	9	5,275
2	Commercial	1,758	Female	0	39	2,306	0	9,908	125	5,673	263	110	18,424
	Gill Net		Male	0	502	11,148	7	7,758	231	3,691	88	0	23,425
			Total	0	541	13,454	7	17,666	356	9,364	351	110	41,849
2	Subsistence	0	Female	0	6	357	0	1,535	19	879	40	17	2,853
	Gill Net		Male	0	78	1,727	1	1,202	36	572	14	0	3,630
			Total	0	84	2,084	1	2,737	55	1,451	54	17	6,483
3	Commercial	0	Female	0	1	50	0	213	3	122	6	2	397
	Gill Net		Male	0	11	240	0	167	5	79	2	0	504
			Total	0	12	290	0	380	8	201	8	2	901
3	Subsistence	0	Female	0	4	234	0	1,007	13	576	27	11	1,872
	Gill Net		Male	0	51	1,133	1	788	23	375	9	0	2,380
			Total	0	55	1,367	1	1,795	36	951	36	11	4,252
4	Comm & Subs	268	Female	0	0	414	0	1,655	113	1,355	188	113	3,838
	GN & FW		Male	0	489	2,709	0	1,882	414	527	75	151	6,247
			Total	0	489	3,123	0	3,537	527	1,882	263	264	10,085
5	Comm & Subs	482	Female	0	0	322	0	2,195	81	1,854	302	222	4,976
	Gill Net		Male	20	222	947	0	1,814	202	1,149	262	121	4,737
			Total	20	222	1,269	0	4,009	283	3,003	564	343	9,713
5	Comm & Subs	499	Female	36	794	0	0	1,516	108	505	181	36	3,176
	Fish Wheel		Male	506	3,285	18	0	885	542	343	217	36	5,832
			Total	542	4,079	18	0	2,401	650	848	398	72	9,008
6	Comm & Subs	294	Female	0	0	190	0	981	0	475	0	0	1,646
	GN & FW		Male	0	206	1,945	0	664	95	95	0	0	3,005
			Total	0	206	2,135	0	1,645	95	570	0	0	4,651
Canada	Commercial	182	Female	0	0	297	0	2,907	119	2,788	59	59	6,229
	Gill Net		Male	0	0	1,364	0	1,958	0	1,246	0	0	4,568
			Total	0	0	1,661	0	4,865	119	4,034	59	59	10,797
Canada	Subsistence	0	Female	0	0	255	0	2,495	102	2,393	51	51	5,347
	Gill Net		Male	0	0	1,171	0	1,680	0	1,069	0	0	3,920
			Total	0	0	1,426	0	4,175	102	3,462	51	51	9,267
TOTAL HARVEST			Female	36	844	8,007	0	38,817	814	24,688	1,297	722	75,225
			Male	526	5,614	36,957	9	29,465	1,713	14,438	1,061	308	90,091
			Total	562	6,458	44,964	9	68,282	2,527	39,126	2,358	1,030	165,316

Table 5. Length (mm) by age and sex of Yukon River chinook salmon commercial and subsistence catch samples, 1986.[a]

			Brood Year and Age Group								
			1983	1982	1981		1980		1979		1978
Fishery	Sex		1.1	1.2	1.3	2.2	1.4	2.3	1.5	2.4	2.5
District 1	Female	Mean Length			774		851	830	904	810	948
Commercial		Std Error			7.7		2.6	30.0	6.0	24.9	42.5
Unrestricted Mesh		Sample Size			72		364	2	193	4	2
Size Gill Net											
	Male	Mean Length		564	743		842	758	921	860	
		Std Error		9.5	3.8		4.0	4.4	5.0	23.9	
		Sample Size		13	275		222	3	117	7	
District 1	Female	Mean Length			762		840	722	895	882	815
Commercial		Std Error			9.3		4.8	42.5	5.7	32.5	0.0
6 in (15.2 cm)		Sample Size			45		126	2	63	2	1
Maximum Mesh											
Size Gill Net	Male	Mean Length		552	706		812	718	943	840	
		Std Error		6.9	3.1		6.7	17.5	10.0	32.2	
		Sample Size		20	306		113	2	30	3	
District 2	Female	Mean Length			790		859	818	911	862	909
Commercial		Std Error			7.8		2.2	37.1	3.4	12.4	5.8
Unrestricted Mesh		Sample Size			65		392	3	239	11	5
Size Gill Net											
	Male	Mean Length		558	750	600	845	694	920	800	
		Std Error		53.0	3.2	0.0	4.0	21.2	7.3	36.2	
		Sample Size		6	322	1	260	6	119	3	
District 2	Female	Mean Length		588	699		840	700	902	880	
Commercial		Std Error		12.5	8.3		12.0	5.0	13.3	10.0	
6 in (15.2 cm)		Sample Size		2	40		34	2	19	2	
Maximum Mesh											
Size Gill Net	Male	Mean Length		588	695		840	675	911	830	
		Std Error		12.9	4.4		11.8	20.7	13.9	85.0	
		Sample Size		22	122		51	6	22	2	
District 4	Female	Mean Length			797		876	773	908	870	893
Subsistence		Std Error			26.1		5.4	14.5	10.9	24.4	24.6
Gill Net		Sample Size			9		33	3	27	4	3
	Male	Mean Length		560	751		852	754	965	830	890
		Std Error		30.0	11.0		13.1	32.4	15.6	0.0	17.3
		Sample Size		2	37		30	7	9	1	3

- Continued -

Table 5. Length (mm) by age and sex of Yukon River chinook salmon commercial and subsistence catch samples, 1986 (continued).[a]

			Brood Year and Age Group								
			1983	1982	1981		1980		1979		1978
Fishery	Sex		1.1	1.2	1.3	2.2	1.4	2.3	1.5	2.4	2.5
District 4	Female	Mean Length					848		882		
Commercial		Std Error					7.5		72.5		
Fish Wheel		Sample Size					2		2		
	Male	Mean Length		514	687		737	725			
		Std Error		16.9	13.4		61.7	0.0			
		Sample Size		5	14		3	1			
District 5	Female	Mean Length			747		862	768	917	856	914
Comm & Subs		Std Error			19.6		5.3	60.9	4.9	12.6	12.4
Gill Net		Sample Size			16		109	4	92	15	11
	Male	Mean Length	395	546	710		867	736	948	865	935
		Std Error	0.0	13.0	10.1		8.0	24.4	9.4	29.5	10.0
		Sample Size	1	11	47		90	10	57	13	6
District 5	Female	Mean Length		585	694		834	684	898	809	892
Comm & Subs		Std Error		5.0	9.5		5.7	24.0	10.7	14.4	42.5
Fish Wheel		Sample Size		2	44		84	6	28	10	2
	Male	Mean Length		515	689	560	800	687	969	795	982
		Std Error		10.3	3.8	0.0	11.0	8.8	14.7	16.4	52.5
		Sample Size		28	182	1	49	30	19	12	2
District 6	Female	Mean Length			759		873		918		
Subsistence		Std Error			41.3		9.3		9.4		
Gill Net		Sample Size			4		24		16		
	Male	Mean Length		575	740		878	730	997		
		Std Error		5.0	8.7		17.6	5.0	30.9		
		Sample Size		2	32		21	2	3		
District 6	Female	Mean Length			780		859		904		
Comm & Subs		Std Error			24.6		8.0		17.6		
Fish Wheel		Sample Size			8		38		14		
	Male	Mean Length		579	713		834	709	888		
		Std Error		17.3	5.7		18.0	27.9	26.8		
		Sample Size		11	91		21	4	3		

- Continued -

Table 5. Length (mm) by age and sex of Yukon River chinook salmon commercial and subsistence catch samples, 1986 (continued).[a]

			Brood Year and Age Group								
			1983	1982	1981		1980		1979		1978
Fishery	Sex		1.1	1.2	1.3	2.2	1.4	2.3	1.5	2.4	2.5
Canada	Female	Mean Length			769		911	740	967	870	905
Commercial		Std Error			25.0		7.5	15.0	8.4	0.0	0.0
Gill Net		Sample Size			5		49	2	47	1	1
	Male	Mean Length			765		917		1028		
		Std Error			12.2		14.6		16.4		
		Sample Size			23		33		21		

[a] Length measured from mid-orbit to fork of tail, except for sample from Canadian commercial fishery, which was measured from tip of snout to fork of tail.

Table 6. Age and sex composition of Yukon River chinook salmon escapement samples, 1986.[a]

River	Aerial Survey Index	Sample Size	Sex	Brood Year and Age Group 1983 1.1	1982 1.2	1981 1.3	1981 2.2	1980 1.4	1980 2.3	1979 1.5	1979 2.4	1978 2.5	Total
Andreafsky	5,112	275	Female	0.0	0.4	8.7	0.0	9.5	0.0	4.7	0.0	0.0	23.3
			Male	0.0	1.8	61.1	0.0	12.0	0.4	1.1	0.4	0.0	76.7
			Total	0.0	2.2	69.8	0.0	21.5	0.4	5.8	0.4	0.0	100.0
			S.E.	0.0	0.9	2.8	0.0	2.5	0.4	1.4	0.4	0.0	
Anvik	1,118	142	Female	0.0	0.7	19.0	0.0	33.8	0.0	8.5	0.7	0.0	62.7
			Male	0.0	0.0	31.0	0.0	4.2	0.0	2.1	0.0	0.0	37.3
			Total	0.0	0.7	50.0	0.0	38.0	0.0	10.6	0.7	0.0	100.0
			S.E.	0.0	0.7	4.2	0.0	4.1	0.0	2.6	0.7	0.0	
Nulato	2,974	189	Female	0.0	0.5	21.7	0.0	27.5	0.0	12.7	0.5	0.0	63.0
			Male	0.0	1.1	28.6	0.5	3.7	0.0	2.6	0.5	0.0	37.0
			Total	0.0	1.6	50.3	0.5	31.2	0.0	15.3	1.1	0.0	100.0
			S.E.	0.0	0.9	3.6	0.5	3.4	0.0	2.6	0.8	0.0	
Jim	238	166	Female	0.0	0.0	12.7	0.0	13.3	1.8	8.4	1.8	2.4	40.4
			Male	0.0	3.0	35.5	1.2	12.0	3.0	3.6	1.2	0.0	59.6
			Total	0.0	3.0	48.2	1.2	25.3	4.8	12.0	3.0	2.4	100.0
			S.E.	0.0	1.3	3.9	0.8	3.4	1.7	2.5	1.3	1.2	
Clear Cr	168	141	Female %	0.0	0.0	1.4	0.0	29.1	0.0	13.5	1.4	0.0	45.4
Weir Count			Female N	0	0	2	0	49	0	23	2	0	76
			Male %	0.0	1.4	24.1	0.0	27.7	0.0	1.4	0.0	0.0	54.6
			Male N	0	2	41	0	47	0	2	0	0	92
			Total %	0.0	1.4	25.5	0.0	56.8	0.0	14.9	1.4	0.0	100.0
			Total N	0	2	43	0	96	0	25	2	0	168
			S.E.	0	2	6	0	7	0	5	2	0	
Chena	2,031	729	Female	0.0	0.0	3.6	0.0	13.9	0.0	7.7	0.1	0.1	25.4
			Male	0.1	9.3	47.6	0.0	14.7	1.4	1.5	0.0	0.0	74.6
			Total	0.1	9.3	51.2	0.0	28.5	1.4	9.2	0.1	0.1	100.0
			S.E.	0.1	1.1	1.9	0.0	1.7	0.4	1.1	0.1	0.1	
Salcha	3,368	586	Female	0.0	0.2	6.7	0.0	16.7	0.0	12.3	0.0	0.0	35.8
			Male	0.2	11.6	37.0	0.0	11.8	1.0	2.6	0.0	0.0	64.2
			Total	0.2	11.8	43.7	0.0	28.5	1.0	14.8	0.0	0.0	100.0
			S.E.	0.2	1.3	2.1	0.0	1.9	0.4	1.5	0.0	0.0	

- Continued -

Table 6. Age and sex composition of Yukon River chinook salmon escapement samples, 1986 (continued).[a]

River	Aerial Survey Index	Sample Size	Sex	Brood Year and Age Group 1983 1.1	1982 1.2	1981 1.3	1981 2.2	1980 1.4	1980 2.3	1979 1.5	1979 2.4	1978 2.5	Total
Big Salmon Weir Count	1,816	233	Female %	0.0	0.0	1.7	0.0	30.0	0.0	17.2	4.3	2.1	55.4
			Female N	0	0	31	0	546	0	312	78	39	1,005
			Male %	0.0	1.7	20.2	0.9	11.2	5.6	2.6	1.7	0.9	44.6
			Male N	0	31	366	16	203	101	47	31	16	811
			Total %	0.0	1.7	21.9	0.9	41.2	5.6	19.7	6.0	3.0	100.0
			Total N	0	31	397	16	748	101	359	109	55	1,816
			S.E.	0	15	49	11	59	27	47	28	20	
Little Salmon	54	58	Female	0.0	0.0	5.2	0.0	31.0	1.7	17.2	5.2	3.4	63.8
			Male	0.0	0.0	15.5	0.0	8.6	8.6	3.4	0.0	0.0	36.2
			Total	0.0	0.0	20.7	0.0	39.7	10.3	20.7	5.2	3.4	100.0
			S.E.	0.0	0.0	5.4	0.0	6.5	4.0	5.4	2.9	2.4	
Nisutlin	703	177	Female	0.0	0.0	1.7	0.0	33.3	1.1	10.2	27.7	9.6	83.6
			Male	0.0	0.0	1.1	0.0	7.3	1.7	1.7	3.4	1.1	16.4
			Total	0.0	0.0	2.8	0.0	40.7	2.8	11.9	31.1	10.7	100.0
			S.E.	0.0	0.0	1.2	0.0	3.7	1.2	2.4	3.5	2.3	
Teslin	-	34	Female	0.0	0.0	0.0	0.0	26.5	0.0	32.4	2.9	2.9	64.7
			Male	0.0	5.9	8.8	0.0	14.7	0.0	5.9	0.0	0.0	35.3
			Total	0.0	5.9	8.8	0.0	41.2	0.0	38.2	2.9	2.9	100.0
			S.E.	0.0	4.1	4.9	0.0	8.6	0.0	8.5	2.9	2.9	
Mainstem Yukon	-	30	Female	0.0	0.0	0.0	0.0	16.7	0.0	33.3	0.0	10.0	60.0
			Male	0.0	0.0	10.0	0.0	13.3	0.0	13.3	0.0	3.3	40.0
			Total	0.0	0.0	10.0	0.0	30.0	0.0	46.7	0.0	13.3	100.0
			S.E.	0.0	0.0	5.6	0.0	8.5	0.0	9.3	0.0	6.3	

[a] All samples collected by carcass survey except for 17 beach seine samples from the Andreafsky River, 3 from the Anvik River, and the Clear Creek samples, which were all live-sampled at the weir. Aerial survey escapement index counts and sample composition percentages are presented for all areas except for the Clear Creek and Big Salmon River weirs, which are population counts and apportionments in numbers of fish.

Table 7. Length (mm) by age and sex of Yukon River chinook salmon escapement samples, 1986.[a]

Location	Sex		Brood Year and Age Group								
			1983	1982	1981		1980		1979		1978
			1.1	1.2	1.3	2.2	1.4	2.3	1.5	2.4	2.5
Andreafsky River	Female	Mean Length		470	723		845		857		
		Std Error		0.0	14.6		9.3		22.8		
		Sample Size		1	24		25		13		
	Male	Mean Length		574	708		804	715	853	895	
		Std Error		18.9	4.3		9.8	0.0	43.3	0.0	
		Sample Size		5	167		33	1	3	1	
Anvik River	Female	Mean Length		460	771		862		899	900	
		Std Error		0.0	14.0		9.2		12.6	0.0	
		Sample Size		1	27		48		12	1	
	Male	Mean Length			737		782		863		
		Std Error			8.2		19.6		48.5		
		Sample Size			44		6		3		
Nulato River	Female	Mean Length			749		832		897	900	
		Std Error			10.4		10.8		10.3	0.0	
		Sample Size			35		41		19	1	
	Male	Mean Length		610	702		813		961		
		Std Error		50.0	8.2		29.6		27.7		
		Sample Size		2	44		5		4		
Jim River	Female	Mean Length			747		837	768	908	860	870
		Std Error			15.6		13.4	7.5	16.7	26.5	67.0
		Sample Size			16		15	2	12	3	4
	Male	Mean Length		547	700	622	822	690	968	735	
		Std Error		16.2	7.1	87.5	20.1	29.8	21.2	35.0	
		Sample Size		5	52	2	17	4	6	2	
Clear Creek[b]	Female	Mean Length			700		790		814	914	
		Std Error			50.0		7.7		12.2	84.5	
		Sample Size			2		41		18	2	
	Male	Mean Length		585	700		774		795		
		Std Error		95.0	10.3		12.7		35.0		
		Sample Size		2	34		38		2		

- Continued -

Table 7. Length (mm) by age and sex of Yukon River chinook salmon escapement samples, 1986 (continued).[a]

			Brood Year and Age Group								
			1983	1982	1981		1980		1979		1978
Location	Sex		1.1	1.2	1.3	2.2	1.4	2.3	1.5	2.4	2.5
Teslin River	Female	Mean Length					846		916	825	910
		Std Error					11.3		14.5	0.0	0.0
		Sample Size					8		11	1	1
	Male	Mean Length		540	684		879		1032		
		Std Error		31.5	7.5		30.0		12.5		
		Sample Size		2	3		5		2		
Mainstem Yukon R Canada	Female	Mean Length					888		918		955
		Std Error					37.5		15.6		0.0
		Sample Size					2		4		1
	Male	Mean Length			690		939		977		
		Std Error			0.0		40.2		21.7		
		Sample Size			1		4		3		

[a] All samples collected by carcass survey except for 17 beach seine samples from the Andreafsky River, 3 from the Anvik River, and the Clear Creek samples, which were all live-sampled at the weir. Length measured from mid-orbit to fork of tail.

[b] Clear Creek sample includes some hatchery fish which demonstrate a freshwater check after warm water rearing in the spring following incubation.

Table 8. Total utilization of Yukon River summer chum salmon by age, sex, and fishery, 1986.

District	Fishery	Sample Size	Sex	Brood Year and Age Group 1983 0.2	1982 0.3	1981 0.4	1980 0.5	Total
1	Commercial	2,619	Female	218	42,029	138,384	2,072	182,703
	Gill Net		Male	0	60,949	134,694	2,781	198,424
			Total	218	102,978	273,078	4,853	381,127
1	Subsistence	0	Female	22	4,285	14,108	211	18,626
	Gill Net		Male	0	6,213	13,731	284	20,228
			Total	22	10,498	27,839	495	38,854
2	Commercial	0	Female	165	31,806	104,725	1,568	138,264
	Gill Net		Male	0	46,125	101,933	2,105	150,163
			Total	165	77,931	206,658	3,673	288,427
2	Subsistence	0	Female	24	4,576	15,067	225	19,892
	Gill Net		Male	0	6,636	14,665	303	21,604
			Total	24	11,212	29,732	528	41,496
3	Commercial	0	Female	0	49	175	2	226
	Gill Net		Male	0	66	146	4	216
			Total	0	115	321	6	442
3	Subsistence	0	Female	3	610	2,007	30	2,650
	Gill Net		Male	0	884	1,954	40	2,878
			Total	3	1,494	3,961	70	5,528
4	Commercial	429	Female	635	66,667	117,780	0	185,082
	Fish Wheel		Male	0	31,747	99,049	1,587	132,383
			Total	635	98,414	216,829	1,587	317,465
4	Subsistence	0	Female	282	29,644	52,371	0	82,297
	Fish Wheel		Male	0	14,116	44,042	706	58,864
			Total	282	43,760	96,413	706	141,161
6	Commercial	425	Female	237	11,281	16,401	569	28,488
	Fish Wheel		Male	0	7,679	10,807	427	18,913
			Total	237	18,960	27,208	996	47,401
6	Subsistence	0	Female	68	3,246	4,719	164	8,197
	Fish Wheel		Male	0	2,210	3,110	122	5,442
			Total	68	5,456	7,829	286	13,639
TOTAL HARVEST			Female	1,654	194,193	465,737	4,841	666,425
			Male	0	176,625	424,131	8,359	609,115
			Total	1,654	370,818	889,868	13,200	1,275,540[a]

[a] Does not include the following harvests due to lack of appropriate sample data:

District 4 Commercial and Subsistence Gill Net	66,639
District 5 Commercial and Subsistence Gill Net	2,283
District 5 Commercial and Subsistence Fish Wheel	20,296
District 6 Commercial and Subsistence Gill Net	8,638
Total	97,856

Table 9. Length (mm) by age and sex of Yukon River summer chum salmon commercial catch samples, 1986.[a]

Fishery	Sex		Brood Year and Age Group 1983 0.2	1982 0.3	1981 0.4	1980 0.5
District 1	Female	Mean Length	-	562	579	602
Unrestricted Mesh		Std Error	-	1.9	1.2	14.1
Size Gill Net		Sample Size	0	107	363	5
	Male	Mean Length	-	578	604	602
		Std Error	-	1.9	1.6	13.3
		Sample Size	0	147	306	9
District 1	Female	Mean Length	512	564	580	589
6 in (15.2 cm)		Std Error	2.5	1.4	1.0	8.9
Maximum Mesh		Sample Size	2	212	576	11
Size Gill Net						
	Male	Mean Length	-	577	604	592
		Std Error	-	1.4	1.2	12.0
		Sample Size	0	302	561	11
District 4	Female	Mean Length	505	554	578	-
Fish Wheel		Std Error	0.0	2.6	2.2	-
		Sample Size	1	90	159	0
	Male	Mean Length	-	592	624	620
		Std Error	-	4.6	2.4	5.0
		Sample Size	0	43	134	2
District 6	Female	Mean Length	555	563	580	589
Fish Wheel		Std Error	5.0	2.4	1.8	13.8
		Sample Size	2	101	147	5
	Male	Mean Length	-	583	604	618
		Std Error	-	3.5	3.2	15.9
		Sample Size	0	69	97	4

[a] Length measured from mid-orbit to fork of tail.

Table 10. Age and sex composition of Yukon River summer chum salmon escapement to the East Fork Andreafsky River and Anvik River, 1986.[a]

Location and Estimation Method	Escapement Estimate	Sample Size	Sex		Brood Year and Age Group 1983 0.2	1982 0.3	1981 0.4	1980 0.5	Total
E F Andreafsky R Tower Count	167,614	775	Female	Percent of Sample	0.3	35.1	19.1	0.9	55.4
				Number in Escapement	433	58,827	32,009	1,514	92,783
			Male	Percent of Sample	0.0	25.8	18.1	0.8	44.6
				Number in Escapement	0	43,255	30,279	1,298	74,831
			Combined	Percent of Sample	0.3	60.9	37.2	1.7	100.0
				Number in Escapement	433	102,082	62,288	2,812	167,614
				Standard Error	329	2,940	2,912	779	
Anvik River Sonar Count	1,189,602	486	Female	Percent of Sample	0.4	18.3	38.3	0.8	57.8
				Number in Escapement	4,895	217,849	455,280	9,790	687,815
			Male	Percent of Sample	0.0	12.1	29.4	0.6	42.2
				Number in Escapement	0	144,416	350,027	7,343	501,787
			Combined	Percent of Sample	0.4	30.5	67.7	1.4	100.0
				Number in Escapement	4,895	362,266	805,307	17,134	1,189,602
				Standard Error	3,409	24,870	25,260	6,346	

[a] Samples collected by beach seine. Escapement estimates are total season population estimates.

Table 11. Length (mm) by age and sex of Yukon River summer chum salmon escapement samples, 1986.[a]

Location	Sex		Brood Year and Age Group 1983 0.2	1982 0.3	1981 0.4	1980 0.5
East Fork Andreafsky River	Female	Mean Length	522	544	562	569
		Std Error	17.5	1.6	1.9	7.6
		Sample Size	2	272	148	7
	Male	Mean Length	-	578	600	633
		Std Error	-	2.0	2.2	5.3
		Sample Size	0	200	140	6
Anvik River	Female	Mean Length	532	546	565	561
		Std Error	7.5	2.8	2.1	5.9
		Sample Size	2	89	186	4
	Male	Mean Length	-	580	602	595
		Std Error	-	4.0	2.6	12.6
		Sample Size	0	59	143	3

[a] Samples collected by beach seine. Length measured from mid-orbit to fork of tail.

Table 12. Total utilization of Yukon River fall chum salmon by age, sex, and fishery, 1986.

District	Fishery	Sample Size	Sex	Brood Year and Age Group 1983 0.2	1982 0.3	1981 0.4	1980 0.5	Total
1	Commercial	1,366	Female	2,198	26,429	6,898	224	35,749
	Gill Net		Male	1,670	16,656	5,239	38	23,603
			Total	3,868	43,085	12,137	262	59,352
1	Subsistence	0	Female	333	4,008	1,046	34	5,421
	Gill Net		Male	253	2,526	794	6	3,579
			Total	586	6,534	1,840	40	9,000
2	Commercial	0	Female	1,900	22,847	5,963	193	30,903
	Gill Net		Male	1,444	14,398	4,529	33	20,404
			Total	3,344	37,245	10,492	226	51,307
2	Subsistence	0	Female	499	6,004	1,567	51	8,121
	Gill Net		Male	379	3,784	1,190	9	5,362
			Total	878	9,788	2,757	60	13,483
3	Commercial	0	Female	103	1,244	324	11	1,682
	Gill Net		Male	79	783	247	2	1,111
			Total	182	2,027	571	13	2,793
3	Subsistence	0	Female	66	795	207	7	1,075
	Gill Net		Male	50	501	158	1	710
			Total	116	1,296	365	8	1,785
Canada	Commercial	349	Female	65	3,647	624	0	4,336
	Gill Net		Male	99	5,584	1,412	33	7,128
			Total	164	9,231	2,036	33	11,464
Canada	Subsistence	0	Female	18	977	167	0	1,162
	Gill Net		Male	26	1,496	379	9	1,910
			Total	44	2,473	546	9	3,072
TOTAL HARVEST			Female	5,182	65,951	16,796	520	88,449
			Male	4,000	45,728	13,948	131	63,807
			Total	9,182	111,679	30,744	651	152,256[a]

[a] Does not include the following harvests due to lack of appropriate sample data:

District 4 Commercial and Subsistence Gill Net	4,695
District 4 Subsistence Fish Wheel	23,846
District 5 Commercial and Subsistence Gill Net	10,708
District 5 Commercial and Subsistence Fish Wheel	99,857
District 6 Commercial and Subsistence Gill Net	2,591
District 6 Commercial and Subsistence Fish Wheel	24,636
Total	166,333

Table 13. Length (mm) by age and sex of Yukon River fall chum salmon commercial catch samples, 1986.[a]

Fishery	Sex		Brood Year and Age Group 1983 0.2	1982 0.3	1981 0.4	1980 0.5
District 1 6 in (15.2 cm) Maximum Mesh Size Gill Net	Female	Mean Length	557	581	596	585
		Std Error	2.8	0.9	2.2	12.1
		Sample Size	55	607	155	5
	Male	Mean Length	567	593	617	610
		Std Error	4.0	1.4	2.7	0.0
		Sample Size	41	386	115	1
Yukon Territory Gill Net (mesh size unknown)	Female	Mean Length	585	628	647	
		Sample Size	2	111	19	
	Male	Mean Length	595	661	689	650
		Sample Size	3	170	43	1

[a] Length measured from mid-orbit to fork of tail for District 1 samples, and from tip of snout to fork of tail for Yukon Territory samples.

Table 14. Age and sex composition of Yukon River fall chum salmon escapement to major spawning areas, 1986.[a]

Location and Estimation Method	Escapement Estimate	Sample Size	Sex		Brood Year and Age Group 1983 0.2	1982 0.3	1981 0.4	1980 0.5	Total
Sheenjek River Sonar Count	83,197	442	Female	Percent of Sample	5.0	22.2	27.6	0.5	55.2
				Number in Escapement	4,141	18,447	22,964	376	45,928
			Male	Percent of Sample	3.2	19.0	22.4	0.2	44.8
				Number in Escapement	2,635	15,811	18,635	188	37,269
			Combined	Percent of Sample	8.1	41.2	50.0	0.7	100.0
				Number in Escapement	6,776	34,258	41,599	564	83,197
				Standard Error	1,081	1,950	1,981	330	
Fishing Branch River Weir Count	31,173	629	Female	Percent of Sample	2.7	26.9	24.5	0.2	54.2
				Number in Escapement	843	8,376	7,632	50	16,901
			Male	Percent of Sample	1.3	21.3	22.3	1.0	45.8
				Number in Escapement	396	6,641	6,938	297	14,272
			Combined	Percent of Sample	4.0	48.2	46.7	1.1	100.0
				Number in Escapement	1,239	15,017	14,570	347	31,173
				Standard Error	79	622	621	130	
Toklat River Expanded Multiple Surveys	18,903	445	Female	Percent of Sample	2.0	37.8	7.2	0.2	47.2
				Number in Escapement	382	7,136	1,359	42	8,921
			Male	Percent of Sample	0.9	42.0	9.2	0.7	52.8
				Number in Escapement	170	7,944	1,742	127	9,983
			Combined	Percent of Sample	2.9	79.8	16.4	0.9	100.0
				Number in Escapement	552	15,080	3,101	170	18,903
				Standard Error	151	360	332	85	
Delta River Expanded Multiple Surveys	6,703	442	Female	Percent of Sample	5.0	39.4	7.7	0.2	52.3
				Number in Escapement	334	2,638	516	15	3,503
			Male	Percent of Sample	2.7	37.8	7.2	0.0	47.7
				Number in Escapement	182	2,533	485	0	3,200
			Combined	Percent of Sample	7.7	77.1	14.9	0.2	100.0
				Number in Escapement	516	5,171	1,001	15	6,703
				Standard Error	85	134	114	14	

- Continued -

Table 14. Age and sex composition of Yukon River fall chum salmon escapement to major spawning areas, 1986 (continued).[a]

Location and Estimation Method	Escapement Estimate	Sample Size	Sex		Brood Year and Age Group 1983 0.2	1982 0.3	1981 0.4	1980 0.5	Total
Mainstem Yukon River Minto Area Peak Aerial Survey Index of Abundance	825	41	Female	Percent of Sample	4.9	46.3	19.5	0.0	70.7
			Male	Percent of Sample	0.0	17.1	12.2	0.0	29.3
			Combined	Percent of Sample	4.9	63.4	31.7	0.0	100.0
				Standard Error	3.4	7.6	7.4	0.0	
Kluane River Peak Aerial Survey Index of Abundance	16,686	181	Female	Percent of Sample	0.6	47.0	6.6	0.0	54.1
			Male	Percent of Sample	0.0	34.3	11.1	0.6	45.9
			Combined	Percent of Sample	0.6	81.2	17.7	0.6	100.0
				Standard Error	0.6	2.9	2.8	0.6	

[a] All samples collected by carcass survey, except for Sheenjek River (beach seine) and Fishing Branch River (live-sampled at weir). Only the sample composition is presented for those areas with only indices of abundance.

Table 15. Length (mm) by age and sex of Yukon River fall chum salmon escapement samples, 1986.[a]

Location	Sex		Brood Year and Age Group 1983 0.2	1982 0.3	1981 0.4	1980 0.5
Sheenjek River	Female	Mean Length	557	576	590	648
		Std Error	5.7	2.9	2.7	22.5
		Sample Size	22	98	122	2
	Male	Mean Length	568	601	632	630
		Std Error	8.4	3.4	3.2	0.0
		Sample Size	14	84	99	1
Fishing Branch R	Female	Mean Length	574	601	636	627
		Std Error	5.4	2.2	2.6	0.0
		Sample Size	17	169	154	1
	Male	Mean Length	578	648	696	706
		Std Error	9.6	2.8	3.3	15.6
		Sample Size	8	134	140	6
Toklat River	Female	Mean Length	523	553	570	555
		Std Error	6.1	1.8	4.6	0.0
		Sample Size	9	168	32	1
	Male	Mean Length	505	576	603	555
		Std Error	6.8	2.0	3.7	15.3
		Sample Size	4	187	41	3
Delta River	Female	Mean Length	536	568	585	605
		Std Error	5.8	1.8	5.3	0.0
		Sample Size	22	174	34	1
	Male	Mean Length	545	588	616	-
		Std Error	6.3	2.0	4.0	-
		Sample Size	12	167	32	0
Mainstem Yukon R Minto Area	Female	Mean Length	576	607	614	-
		Sample Size	2	19	8	0
	Male	Mean Length	-	673	683	-
		Sample Size	0	7	5	0

- Continued -

Table 15. Length (mm) by age and sex of Yukon River fall chum salmon escapement samples, 1986 (continued).[a]

Location	Sex		Brood Year and Age Group 1983 0.2	1982 0.3	1981 0.4	1980 0.5
Kluane River	Female	Mean Length	544	611	616	-
		Sample Size	1	85	12	0
	Male	Mean Length	-	651	676	675
		Sample Size	0	62	20	1

[a] All samples collected by carcass survey, except for Sheenjek River (beach seine) and Fishing Branch River (live-sampled at weir). Length measured from mid-orbit to fork of tail for all samples except those from the Fishing Branch, mainstem Yukon, and Kluane Rivers, which were measured from tip of snout to fork of tail.

Table 16. Total utilization of Yukon River coho salmon by age, sex, and fishery, 1986.

District	Fishery	Sample Size	Sex	Brood Year and Age Group 1983 1.1	1982 2.1	1981 3.1	Total
1	Commercial Gill Net	491	Female	288	10,779	1,060	12,127
			Male	244	11,239	1,214	12,697
			Total	532	22,018	2,274	24,824
1	Subsistence Gill Net	0	Female	33	1,183	117	1,333
			Male	27	1,231	134	1,392
			Total	60	2,414	251	2,725
2	Commercial Gill Net	0	Female	254	9,200	911	10,365
			Male	212	9,581	1,039	10,832
			Total	466	18,781	1,950	21,197
2	Subsistence Gill Net	0	Female	110	3,966	393	4,469
			Male	91	4,132	448	4,671
			Total	201	8,098	841	9,140
3	Commercial Gill Net	0	Female	10	344	34	388
			Male	8	358	39	405
			Total	18	702	73	793
3	Subsistence Gill Net	0	Female	9	339	34	382
			Male	8	353	38	399
			Total	17	692	72	781
TOTAL HARVEST			Female	704	25,811	2,549	29,064
			Male	590	26,894	2,912	30,396
			Total	1,294	52,705	5,461	59,460[a]

[a] Does not include the following harvests due to lack of appropriate sample data:

District 4 Subsistence Gill Net	263
District 4 Subsistence Fish Wheel	2,368
District 5 Subsistence Gill Net	587
District 5 Subsistence Fish Wheel	5,283
District 6 Commercial and Subsistence Gill Net	1,356
District 6 Commercial and Subsistence Fish Wheel	12,408
Yukon Territory Subsistence Gill Net	300
Total	22,565

Table 17. Length (mm) by age and sex of Yukon River coho salmon commercial catch samples, 1986.[a]

Fishery	Sex		Brood Year and Age Group 1983 1.1	1982 2.1	1981 3.1
District 1	Female	Mean Length	561	551	556
6 in (15.2 cm)		Std Error	5.4	1.9	5.9
Maximum Mesh		Sample Size	6	212	21
Size Gill Net					
	Male	Mean Length	549	552	555
		Std Error	15.6	2.3	6.3
		Sample Size	5	220	25

[a] Length measured from mid-orbit to fork of tail.

Table 18. Delta Clearwater River coho salmon escapement sample by age, sex, and length (mm), 1986.[a]

Sex		Brood Year and Age Group 1983 1.1	1982 2.1	1981 3.1	Total
Female	Sample Size	10	81	7	98
	Percent	4.6	37.0	3.2	44.8
	Mean Length	528	540	538	
	Standard Error	8.5	3.5	8.7	
Male	Sample Size	9	104	8	121
	Percent	4.1	47.5	3.6	55.2
	Mean Length	559	528	524	
	Standard Error	9.5	4.0	12.1	
Total	Sample Size	19	185	15	219
	Percent	8.7	84.5	6.8	100.0

[a] Samples collected by carcass survey on 12/04. Length measured from mid-orbit to fork of tail.

APPENDICES

Appendix Table 1. Yukon River District 1 salmon commercial catch by period, 1986.[a]

Period Dates	Mesh Size	Hours	No. of Fishermen	Chinook		Summer Chum		Fall Chum		Coho	
				Fish	CPUE	Fish	CPUE	Fish	CPUE	Fish	CPUE
6/14	6" Maximum	12	300	2,663	0.74	65,974	18.33				
6/19-6/20	Unrestricted	24	406	21,731	2.23	29,025	2.98				
6/23-6/24	Unrestricted	24	394	10,248	1.08	57,309	6.06				
6/25-6/26	6" Maximum	12	308	4,091	1.11	74,494	20.16				
6/29-6/30	Unrestricted	24	376	5,558	0.62	23,145	2.56				
7/02	6" Maximum	12	276	1,608	0.49	53,707	16.22				
7/03-7/04	Unrestricted	24	363	5,385	0.62	22,552	2.59				
7/07-7/08	6" Maximum	24	271	606	0.09	18,060	2.78				
7/10-7/11	6" Maximum	24	273	784	0.12	17,005	2.60				
7/14-7/15	6" Maximum	24	257	319	0.05	19,856	3.22				
8/04-8/05	6" Maximum	12[b]	194	8	0.00			11,395	4.89	501	0.22
8/07-8/08	6" Maximum	12[b]	185	6	0.00			7,489	3.37	679	0.31
8/12	6" Maximum	12[b]	197	2	0.00			10,480	4.43	3,812	1.61
8/14-8/15	6" Maximum	24[b]	218	16	0.00			16,272	3.11	6,224	1.19
8/18-8/19	6" Maximum	12[b]	169	1	0.00			5,809	2.86	3,852	1.90
8/21-8/22	6" Maximum	24[b]	198	9	0.00			7,907	1.66	9,756	2.05
Total				53,035[c]		381,127		59,352		24,824	

[a] All fish taken with set or drift gill net. CPUE is number of fish per fisherman per hour.

[b] Hours of fishing time listed are for the coastal portion of District 1, which was open to only set gill nets during the fall season (8/04-8/22). The remainder of District 1 was open for half this amount of time (i.e. 6 or 12 hours instead of 12 or 24 hours), and either set or drift gill nets could be used. CPUE is calculated for the entire district catch using the longer fishing time.

[c] Chinook salmon harvest was 42,922 fish during unrestricted mesh fishing periods, and 10,113 fish during restricted mesh fishing periods.

Appendix Table 2. Yukon River District 2 salmon commercial catch by period, 1986.[a]

Period Dates	Mesh Size	Hours	No. of Fishermen	Chinook		Summer Chum		Fall Chum		Coho	
				Fish	CPUE	Fish	CPUE	Fish	CPUE	Fish	CPUE
6/15	6" Maximum	12	195	798	0.34	26,915	11.50				
6/21	6" Maximum	6	213	1,762	1.38	73,196	57.27				
6/22-6/23	Unrestricted	24	224	14,505	2.70	32,894	6.12				
6/24	6" Maximum	6	144	1,063	1.23	28,894	33.44				
6/26-6/27	Unrestricted	24	226	12,248	2.26	34,309	6.33				
7/01-7/02	Unrestricted	24	210	7,417	1.47	16,005	3.18				
7/03-7/04	6" Maximum	12	172	824	0.40	29,592	14.34				
7/06-7/07	Unrestricted	24	188	2,433	0.54	16,133	3.58				
7/09-7/10	6" Maximum	24	147	455	0.13	13,718	3.89				
7/13-7/14	6" Maximum	24	147	334	0.09	16,771	4.75				
8/06	6" Maximum	6	170	4	0.00			11,624	11.40	666	0.65
8/10	6" Maximum	6	146	1	0.00			9,705	11.08	1,092	1.25
8/13	6" Maximum	6	153	3	0.00			5,549	6.04	1,483	1.62
8/17	6" Maximum	12	201	1	0.00			12,530	5.19	6,519	2.70
8/20	6" Maximum	6	150	1	0.00			4,658	5.18	3,151	3.50
8/24	6" Maximum	12	188					7,241	3.21	8,286	3.67
Total				41,849[b]		288,427		51,307		21,197	

[a] All fish taken with set or drift gill net. CPUE is number of fish per fisherman per hour.

[b] Chinook salmon harvest was 36,603 fish during unrestricted mesh fishing periods, and 5,246 fish during restricted mesh fishing periods.

Appendix Table 3. Yukon River District 3 salmon commercial catch by period, 1986.[a]

Period Dates	Mesh Size	Hours	No. of Fishermen	Chinook		Summer Chum		Fall Chum		Coho	
				Fish	CPUE	Fish	CPUE	Fish	CPUE	Fish	CPUE
6/26-6/27	Unrestricted	24	5	301	2.51	119	0.99				
7/01-7/02	Unrestricted	24	3	401	5.57	169	2.35				
7/06-7/07	Unrestricted	24	4	199	2.07	154	1.60				
8/10	6" Maximum	6	6					381	10.58	9	0.25
8/13	6" Maximum	6	7					354	8.43	47	1.12
8/17	6" Maximum	12	9					1,095	10.14	116	1.07
8/20	6" Maximum	6	6					369	10.25	140	3.89
8/24	6" Maximum	12	11					594	4.50	481	3.64
Total				901		442		2,793		793	

[a] All fish taken with set or drift gill net. CPUE is number of fish per fisherman per hour.

Appendix Table 4. Yukon River District 4 salmon commercial catch by period, 1986.[a]

Period Dates	Hours	No. of Fishermen	Chinook		Summer Chum		Fall Chum		Coho	
			Fish	CPUE	Fish	CPUE	Fish	CPUE	Fish	CPUE
6/22-6/24	48	7	11	0.03	2,622	7.80				
6/25-6/27	48	35			22,793	13.57				
6/29-7/01	48	54	185	0.07	52,139	20.12				
7/02-7/04	48	63	154	0.05	51,374	16.99				
7/06-7/08	48	61	84	0.03	44,977	15.36				
7/09-7/11	48	63	20	0.01	37,947	12.55				
7/13-7/15	48	58	18	0.01	21,526	7.73				
7/16-7/18	48	57	23	0.01	16,295	5.96				
7/20-7/22	48	43	5	0.00	9,073	4.40				
7/23-7/25	48	36	2	0.00	6,028	3.49				
7/27-7/29	48	24			2,977	2.58				
7/30-8/01	48	16			2,094	2.73				
8/13-8/15[b]	48	1					325	6.77		
8/17-8/19	48	1					420	8.75		
8/20-8/22	48	1					720	15.00		
8/24-8/26	48	1					240	5.00		
8/27-8/29	48	1					340	7.08		
Total			502		269,845		2,045		0	

[a] Fish taken by set gill net and fish wheel. CPUE is number of fish per fisherman per hour. Includes "equivalent fish" converted from roe sales.

[b] Subdistricts 4B and 4C only from 8/13-8/29.

Appendix Table 5. Yukon River District 5 salmon commercial catch by period, 1986.[a]

Period Dates	Hours	No. of Fishermen	Chinook		Summer Chum		Fall Chum		Coho	
			Fish	CPUE	Fish	CPUE	Fish	CPUE	Fish	CPUE
6/27-6/29	48	2	24	0.25						
7/01-7/03	48	8	205	0.53						
7/04-7/06	48	12	967	1.68	92	0.16				
7/08-7/10	48	16	887	1.15	590	0.77				
7/11-7/12	24	11	360	1.36	8	0.03				
7/13-7/19[b]	168	2	290	0.86						
8/19-8/20	24	12					3,377	11.73		
8/21-8/22	36	15					6,212	11.50		
8/24-8/25	24	13					6,205	19.89		
8/30-8/31	24	13					6,654	21.33		
Total			2,733		690		22,448		0	

[a] Fish taken by set gill net and fish wheel. CPUE is number of fish per fisherman per hour. Includes "equivalent fish" converted from roe sales.

[b] Subdistrict 5D only.

Appendix Table 6. Yukon River District 6 salmon commercial catch by period, 1986.[a]

Period Dates	Hours	No. of Fishermen	Chinook		Summer Chum		Fall Chum		Coho	
			Fish	CPUE	Fish	CPUE	Fish	CPUE	Fish	CPUE
7/04-7/06	48	2	8	0.08						
7/07-7/09	48	4	73	0.38	24	0.13				
7/11-7/13	48	7	485	1.44	1,179	3.51				
7/14-7/16	48	11	308	0.58	5,328	10.09				
7/25-7/27	48	14	43	0.06	10,318	15.35				
7/28-7/30	48	17	31	0.04	13,032	15.97				
8/01-8/03	48	17			10,297	12.62				
8/04-8/06	48	14			6,416	9.55				
8/08-8/10	48	4			2,560	13.33				
8/11-8/13	48	4	2	0.01	3,475	18.10				
9/12-9/13	12	16					2,074	10.80	441	2.30
Total			950		52,629		2,074		441	

[a] Fish taken by set gill net and fish wheel. CPUE is number of fish per fisherman per hour. Includes "equivalent fish" converted from roe sales.

Appendix Table 7. Yukon Territory, Canada, salmon commercial catch by period, 1986.[a]

Period Dates	No. of Fishermen	Chinook	Fall Chum
-07/02	1	1	
07/12-07/14	7	237	
07/19-07/24	17	4,971	
07/26-07/31	22	4,356	
08/02-08/07	18	673	13
08/09-08/14	14	321	8
08/16-08/21	4	174	23
08/23-08/28	4	40	219
08/30-09/04	9	14	1,752
09/06-09/11	8	4	2,190
09/13-09/18	10	2	3,000
09/20-09/25	8	3	2,841
09/26-10/02	7	1	992
10/04-10/09	5		426
Total		10,797	11,464

[a] Catch taken primarily by gill net, but an unreported proportion is taken by fish wheel.

Appendix Table 8. Whitehorse fishway daily chinook salmon escapement counts, 1986.

Date	Daily Counts				Cummulative	
	Males	Females	Unknown	Total	Total	Percent
31-Jul	1	0	0	1	1	0.2
01-Aug	2	1	0	3	4	0.7
02-Aug	7	3	0	10	14	2.5
03-Aug	5	9	0	14	28	5.0
04-Aug	4	7	1	12	40	7.2
05-Aug	10	20	1	31	71	12.7
06-Aug	10	11	2	23	94	16.9
07-Aug	12	8	0	20	114	20.5
08-Aug	13	9	0	22	136	24.4
09-Aug	22	15	0	37	173	31.1
10-Aug	20	18	0	38	211	37.9
11-Aug	20	21	0	41	252	45.2
12-Aug	15	16	0	31	283	50.8
13-Aug	13	18	0	31	314	56.4
14-Aug	30	33	0	63	377	67.7
15-Aug	11	13	0	24	401	72.0
16-Aug	12	12	0	24	425	76.3
17-Aug	11	13	0	24	449	80.6
18-Aug	11	18	0	29	478	85.8
19-Aug	6	13	0	19	497	89.2
20-Aug	5	13	0	18	515	92.5
21-Aug	5	13	0	18	533	95.7
22-Aug	2	6	0	8	541	97.1
23-Aug	1	1	0	2	543	97.5
24-Aug	0	2	0	2	545	97.8
25-Aug	1	0	0	1	546	98.0
26-Aug	1	1	0	2	548	98.4
27-Aug	0	1	0	1	549	98.6
28-Aug	0	2	0	2	551	98.9
29-Aug	3	1	0	4	555	99.6
30-Aug	2	0	0	2	557	100.0
Total	255	298	4	557[a]		

[a] Includes 183 fish (113 females and 70 males) taken for hatchery brood stock. Actual spawning escapement was 374 fish.

Appendix Table 9. Big Salmon River weir daily chinook salmon escapement counts, 1986.

Date	Daily Count	Cumulative Count	Cumulative Percent
01-Aug	5	5	0.3
02-Aug	77	82	4.5
03-Aug	152	234	12.9
04-Aug	87	321	17.7
05-Aug	144	465	25.6
06-Aug	210	675	37.2
07-Aug	163	838	46.1
08-Aug	144	982	54.1
09-Aug	145	1,127	62.1
10-Aug	135	1,262	69.5
11-Aug	83	1,345	74.1
12-Aug	145	1,490	82.0
13-Aug	78	1,568	86.3
14-Aug	53	1,621	89.3
15-Aug	45	1,666	91.7
16-Aug	24	1,690	93.1
17-Aug	29	1,719	94.7
18-Aug	19	1,738	95.7
19-Aug	13	1,751	96.4
20-Aug	9	1,760	96.9
21-Aug	7	1,767	97.3
22-Aug	15	1,782	98.1
23-Aug	7	1,789	98.5
24-Aug	6	1,795	98.8
25-Aug	9	1,804	99.3
26-Aug	3	1,807	99.5
27-Aug	6	1,813	99.8
28-Aug	2	1,815	99.9
29-Aug	0	1,815	99.9
30-Aug	0	1,815	99.9
31-Aug	1	1,816	100.0

Appendix Table 10. East Fork Andreafsky River daily adjusted salmon escapement tower counts by species, 1986.

Date	Summer Chum Salmon Daily Count	Cumulative Count	Cumulative Percent	Chinook Salmon Daily Count	Cumulative Count	Cumulative Percent	Pink Salmon Daily Count	Cumulative Count	Cumulative Percent
25-Jun	117	117	0.1	0	0	0.0	0	0	0.0
26-Jun	1,083	1,200	0.8	0	0	0.0	0	0	0.0
27-Jun	6,731	7,931	5.2	0	0	0.0	7	7	0.0
28-Jun	9,509	17,440	11.4	0	0	0.0	36	43	0.0
29-Jun	12,290	29,730	19.5	0	0	0.0	72	115	0.1
30-Jun	13,948	43,678	28.6	0	0	0.0	154	269	0.2
01-Jul	13,014	56,692	37.1	27	27	1.8	807	1,076	0.9
02-Jul	12,080	68,772	45.0	53	80	5.2	1,460	2,536	2.0
03-Jul	11,147	79,919	52.3	80	160	10.5	2,114	4,650	3.7
04-Jul	19,910	99,829	65.4	212	372	24.3	8,615	13,265	10.6
05-Jul	8,362	108,191	70.8	276	648	42.4	7,416	20,681	16.6
06-Jul	1,562	109,753	71.9	49	697	45.6	4,250	24,931	20.0
07-Jul	7,681	117,434	76.9	160	857	56.0	14,956	39,887	32.0
08-Jul	5,883	123,317	80.7	114	971	63.5	11,100	50,987	40.9
09-Jul	4,085	127,402	83.4	68	1,039	67.9	7,243	58,230	46.7
10-Jul	5,477	132,879	87.0	103	1,142	74.6	14,504	72,734	58.4
11-Jul	4,403	137,282	89.9	44	1,186	77.5	7,282	80,016	64.2
12-Jul	5,347	142,629	93.4	132	1,318	86.1	11,931	91,947	73.8
13-Jul	2,103	144,732	94.8	23	1,341	87.6	7,658	99,605	79.9
14-Jul	7,998	152,730	100.0	189	1,530	100.0	25,013	124,618	100.0
Total Season Est[a]		167,614							

[a] Counting was terminated while significant fish passage was still occurring in 1986 due to funding reductions. Cumulative escapement count for the period 25 June through 14 July of 152,730 summer chum salmon was expanded to a total season estimate of 167,614 fish based on historic escapement timing patterns at this site. Similar expansions could not be done for chinook and pink salmon due to the lack of historic daily escapement timing data for these species.

Appendix Table 11. Anvik River daily adjusted summer chum salmon escapement sonar counts, 1986.

Date	Daily Count	Cumulative Count	Cumulative Percent
21-Jun	234	234	0.0
22-Jun	2,970	3,204	0.3
23-Jun	4,894	8,098	0.7
24-Jun	12,192	20,290	1.9
25-Jun	15,769	36,059	3.3
26-Jun	18,392	54,451	5.0
27-Jun	34,844	89,295	8.2
28-Jun	88,531	177,826	16.4
29-Jun	100,102	277,928	25.6
30-Jun	117,778	395,706	36.4
01-Jul	111,472	507,178	46.7
02-Jul	89,247	596,425	54.9
03-Jul	58,444	654,869	60.3
04-Jul	58,997	713,866	65.7
05-Jul	39,913	753,779	69.4
06-Jul	55,902	809,681	74.6
07-Jul	45,280	854,961	78.7
08-Jul	40,688	895,649	82.5
09-Jul	41,088	936,737	86.3
10-Jul	37,960	974,697	89.8
11-Jul	28,766	1,003,463	92.4
12-Jul	16,250	1,019,713	93.9
13-Jul	14,092	1,033,805	95.2
14-Jul	23,838	1,057,643	97.4
15-Jul	28,107	1,085,750	100.0
Total Season Estimate[a]		1,189,602	

[a] Counting was terminated while significant fish passage was still occurring in 1986 due to funding reductions. Cumulative escapement count for the period 21 June through 15 July of 1,085,750 summer chum salmon was expanded to a total season estimate of 1,189,602 fish based on historic escapement timing patterns at this site.

Appendix Table 12. Chandalar River daily adjusted fall chum salmon escapement sonar counts, 1986.

Date	Daily Count	Cumulative Count	Cumulative Percent
09-Aug	9	9	0.0
10-Aug	9	18	0.0
11-Aug	0	18	0.0
12-Aug	35	53	0.1
13-Aug	198	251	0.4
14-Aug	134	385	0.6
15-Aug	150	535	0.9
16-Aug	164	699	1.2
17-Aug	244	943	1.6
18-Aug	242	1,185	2.0
19-Aug	244	1,429	2.4
20-Aug	450	1,879	3.2
21-Aug	827	2,706	4.6
22-Aug	772	3,478	5.9
23-Aug	1,818	5,296	8.9
24-Aug	1,810	7,106	12.0
25-Aug	3,806	10,912	18.4
26-Aug	3,740	14,652	24.7
27-Aug	2,824	17,476	29.5
28-Aug	2,317	19,793	33.4
29-Aug	2,840	22,633	38.2
30-Aug	2,467	25,100	42.3
31-Aug	2,603	27,703	46.7
01-Sep	2,262	29,965	50.5
02-Sep	2,308	32,273	54.4
03-Sep	2,136	34,409	58.0
04-Sep	2,118	36,527	61.6
05-Sep	2,446	38,973	65.7
06-Sep	2,465	41,438	69.9
07-Sep	1,741	43,179	72.8
08-Sep	1,687	44,866	75.6
09-Sep	1,820	46,686	78.7
10-Sep	2,264	48,950	82.5
11-Sep	1,540	50,490	85.1
12-Sep	1,423	51,913	87.5
13-Sep	1,185	53,098	89.5
14-Sep	1,166	54,264	91.5
15-Sep	962	55,226	93.1

- Continued -

Appendix Table 12. Chandalar River daily adjusted fall chum salmon escapement sonar counts, 1986 (continued).

Date	Daily Count	Cumulative	
		Count	Percent
16-Sep	600	55,826	94.1
17-Sep	495	56,321	95.0
18-Sep	427	56,748	95.7
19-Sep	284	57,032	96.2
20-Sep	302	57,334	96.7
21-Sep	345	57,679	97.2
22-Sep	343	58,022	97.8
23-Sep	408	58,430	98.5
24-Sep	321	58,751	99.1
25-Sep	208	58,959	99.4
26-Sep	213	59,172	99.8
27-Sep	141	59,313	100.0

Appendix Table 13. Sheenjek River daily adjusted fall chum salmon escapement sonar counts, 1986.

Date	Daily Count	Cumulative	
		Count	Percent
17-Aug	68	68	0.1
18-Aug	345	413	0.5
19-Aug	769	1,182	1.4
20-Aug	1,576	2,758	3.3
21-Aug	1,178	3,936	4.7
22-Aug	3,023	6,959	8.4
23-Aug	1,177	8,136	9.8
24-Aug	1,733	9,869	11.9
25-Aug	5,374	15,243	18.3
26-Aug	4,875	20,118	24.2
27-Aug	3,712	23,830	28.6
28-Aug	4,633	28,463	34.2
29-Aug	5,150	33,613	40.4
30-Aug	4,336	37,949	45.6
31-Aug	3,889	41,838	50.3
01-Sep	2,101	43,939	52.8
02-Sep	2,230	46,169	55.5
03-Sep	1,819	47,988	57.7
04-Sep	2,406	50,394	60.6
05-Sep	1,645	52,039	62.5
06-Sep	2,265	54,304	65.3
07-Sep	2,849	57,153	68.7
08-Sep	2,760	59,913	72.0
09-Sep	2,469	62,382	75.0
10-Sep	1,131	63,513	76.3
11-Sep	1,461	64,974	78.1
12-Sep	2,500	67,474	81.1
13-Sep	1,751	69,225	83.2
14-Sep	2,866	72,091	86.7
15-Sep	2,290	74,381	89.4
16-Sep	1,099	75,480	90.7
17-Sep	1,488	76,968	92.5
18-Sep	1,481	78,449	94.3
19-Sep	1,548	79,997	96.2
20-Sep	679	80,676	97.0
21-Sep	704	81,380	97.8
22-Sep	577	81,957	98.5
23-Sep	587	82,544	99.2
24-Sep	653	83,197	100.0

Appendix Table 14. Fishing Branch River weir daily fall chum salmon escapement counts, 1986.

Date	Daily Count	Cumulative	
		Count	Percent
02-Sep	30	30	0.1
03-Sep	164	194	0.6
04-Sep	464	658	2.1
05-Sep	398	1,056	3.4
06-Sep	831	1,887	6.1
07-Sep	1,254	3,141	10.1
08-Sep	1,793	4,934	15.8
09-Sep	2,327	7,261	23.3
10-Sep	1,509	8,770	28.1
11-Sep	1,650	10,420	33.4
12-Sep	1,977	12,397	39.8
13-Sep	1,791	14,188	45.5
14-Sep	1,438	15,626	50.1
15-Sep	1,227	16,853	54.1
16-Sep	1,723	18,576	59.6
17-Sep	1,652	20,228	64.9
18-Sep	1,532	21,760	69.8
19-Sep	971	22,731	72.9
20-Sep	1,395	24,126	77.4
21-Sep	1,005	25,131	80.6
22-Sep	799	25,930	83.2
23-Sep	907	26,837	86.1
24-Sep	642	27,479	88.2
25-Sep	629	28,108	90.2
26-Sep	417	28,525	91.5
27-Sep	390	28,915	92.8
28-Sep	326	29,241	93.8
29-Sep	247	29,488	94.6
30-Sep	233	29,721	95.3
01-Oct	261	29,982	96.2
02-Oct	214	30,196	96.9
03-Oct	189	30,385	97.5
04-Oct	231	30,616	98.2
05-Oct	159	30,775	98.7
06-Oct	133	30,908	99.2
07-Oct	85	30,993	99.4
08-Oct	95	31,088	99.7
09-Oct	85	31,173	100.0

Appendix Table 15. Yukon River District 1 chinook salmon commercial gill net catch, age, and sex composition by fishing period, 1986.

		Brood Year and Age Group							
		1982	1981	1980		1979		1978	
		1.2	1.3	1.4	2.3	1.5	2.4	2.5	Total
Stratum Dates: 6/14 Period 1[a]									
Sample Dates: 6/14-6/15									
Sample Size: 271									
Female	Percent of Sample	0.0	1.1	15.9	0.4	7.0	0.4	0.4	25.1
	Number in Catch	0	29	423	10	187	10	10	669
Male	Percent of Sample	1.8	46.1	21.0	0.4	5.2	0.4	0.0	74.9
	Number in Catch	49	1,228	560	10	138	10	0	1,995
Total	Percent of Sample	1.8	47.2	36.9	0.7	12.2	0.7	0.4	100.0
	Number in Catch	49	1,257	983	20	324	20	10	2,663
	Standard Error	22	81	78	14	53	14	10	
Stratum Dates: 6/19-6/20 Period 2[b]									
Sample Dates: 6/21									
Sample Size: 349									
Female	Percent of Sample	0.0	6.6	22.9	0.3	14.9	0.3	0.3	45.3
	Number in Catch	0	1,432	4,981	62	3,238	62	62	9,837
Male	Percent of Sample	0.6	18.3	22.3	0.3	12.0	1.1	0.0	54.7
	Number in Catch	125	3,985	4,857	62	2,615	249	0	11,893
Total	Percent of Sample	0.6	24.9	45.3	0.6	26.9	1.4	0.3	100.0
	Number in Catch	125	5,417	9,838	125	5,853	311	62	21,731
	Standard Error	88	504	580	88	517	138	62	
Stratum Dates: 6/23-6/24 Period 3[b]									
Sample Dates: 6/24									
Sample Size: 340									
Female	Percent of Sample	0.0	3.8	25.3	0.3	14.7	0.6	0.0	44.7
	Number in Catch	0	392	2,594	30	1,507	60	0	4,583
Male	Percent of Sample	2.4	25.6	17.6	0.6	8.8	0.3	0.0	55.3
	Number in Catch	241	2,622	1,808	60	904	30	0	5,665
Total	Percent of Sample	2.4	29.4	42.9	0.9	23.5	0.9	0.0	100.0
	Number in Catch	241	3,014	4,402	90	2,411	90	0	10,248
	Standard Error	84	254	276	52	236	52	0	

- Continued -

Appendix Table 15. Yukon River District 1 chinook salmon commercial gill net catch, age, and sex composition by fishing period, 1986 (continued).

		Brood Year and Age Group							
		1982	1981	1980		1979		1978	
		1.2	1.3	1.4	2.3	1.5	2.4	2.5	Total
Stratum Dates: 6/25-6/26 Period 4[a]									
Sample Dates: 6/26									
Sample Size: 241									
Female	Percent of Sample	0.0	12.0	20.3	0.4	8.3	0.0	0.0	41.1
	Number in Catch	0	492	832	17	340	0	0	1,681
Male	Percent of Sample	2.5	39.4	12.4	0.4	3.3	0.8	0.0	58.9
	Number in Catch	102	1,613	509	17	136	34	0	2,411
Total	Percent of Sample	2.5	51.5	32.8	0.8	11.6	0.8	0.0	100.0
	Number in Catch	102	2,105	1,341	34	475	34	0	4,091
	Standard Error	41	132	124	24	85	24	0	
Stratum Dates: 6/29-6/30 Period 5[b]									
Sample Dates: 6/30									
Sample Size: 350									
Female	Percent of Sample	0.0	6.3	32.0	0.0	15.4	0.0	0.0	53.7
	Number in Catch	0	349	1,778	0	858	0	0	2,985
Male	Percent of Sample	0.6	22.6	15.7	0.0	7.1	0.3	0.0	46.3
	Number in Catch	32	1,255	873	0	397	16	0	2,573
Total	Percent of Sample	0.6	28.9	47.7	0.0	22.6	0.3	0.0	100.0
	Number in Catch	32	1,604	2,651	0	1,255	16	0	5,558
	Standard Error	22	135	149	0	124	16	0	
Stratum Dates: 7/02 Period 6[a]									
Sample Dates: 7/02									
Sample Size: 106									
Female	Percent of Sample	0.0	3.8	17.0	0.0	10.4	0.0	0.0	31.1
	Number in Catch	0	61	273	0	167	0	0	501
Male	Percent of Sample	3.8	48.1	14.2	0.0	2.8	0.0	0.0	68.9
	Number in Catch	61	774	228	0	46	0	0	1,109
Total	Percent of Sample	3.8	51.9	31.1	0.0	13.2	0.0	0.0	100.0
	Number in Catch	61	834	501	0	212	0	0	1,608
	Standard Error	30	78	73	0	53	0	0	

- Continued -

Appendix Table 15. Yukon River District 1 chinook salmon commercial gill net catch, age, and sex composition by fishing period, 1986 (continued).

		Brood Year and Age Group							
		1982	1981	1980		1979		1978	
		1.2	1.3	1.4	2.3	1.5	2.4	2.5	Total
Stratum Dates:	7/03-7/04 Period 7[b]								
Sample Dates:	7/04								
Sample Size:	275								
Female	Percent of Sample	0.0	6.2	35.6	0.0	15.3	0.4	0.4	57.8
	Number in Catch	0	333	1,918	0	822	20	20	3,113
Male	Percent of Sample	0.4	19.6	12.4	0.0	9.5	0.4	0.0	42.2
	Number in Catch	20	1,057	666	0	509	20	0	2,272
Total	Percent of Sample	0.4	25.8	48.0	0.0	24.7	0.7	0.4	100.0
	Number in Catch	20	1,390	2,584	0	1,332	39	20	5,385
	Standard Error	20	142	163	0	140	28	20	
Stratum Dates:	7/07-7/08 Period 8[a]								
Sample Dates:	7/08								
Sample Size:	52								
Female	Percent of Sample	0.0	7.7	19.2	0.0	13.5	1.9	0.0	42.3
	Number in Catch	0	47	117	0	82	12	0	258
Male	Percent of Sample	7.7	32.7	9.6	0.0	7.7	0.0	0.0	57.7
	Number in Catch	47	197	58	0	47	0	0	349
Total	Percent of Sample	7.7	40.4	28.8	0.0	21.2	1.9	0.0	100.0
	Number in Catch	47	244	175	0	128	12	0	606
	Standard Error	23	42	38	0	35	12	0	
Stratum Dates:	7/10-7/11 Period 9[a]								
Sample Dates:	7/11								
Sample Size:	33								
Female	Percent of Sample	0.0	15.2	12.1	0.0	6.1	0.0	0.0	33.3
	Number in Catch	0	119	95	0	48	0	0	262
Male	Percent of Sample	0.0	54.5	12.1	0.0	0.0	0.0	0.0	66.7
	Number in Catch	0	428	95	0	0	0	0	523
Total	Percent of Sample	0.0	69.7	24.2	0.0	6.1	0.0	0.0	100.0
	Number in Catch	0	546	190	0	48	0	0	784
	Standard Error	0	64	59	0	33	0	0	

- Continued -

Appendix Table 15. Yukon River District 1 chinook salmon commercial gill net catch, age, and sex composition by fishing period, 1986 (continued).

		Brood Year and Age Group							
		1982	1981	1980		1979		1978	
		1.2	1.3	1.4	2.3	1.5	2.4	2.5	Total
Stratum Dates:	7/14-7/15	Period 10[a]							
Sample Dates:	7/15								
Sample Size:	15								
Female	Percent of Sample	0.0	0.0	26.7	0.0	26.7	0.0	0.0	53.3
	Number in Catch	0	0	85	0	85	0	0	170
Male	Percent of Sample	6.7	20.0	13.3	0.0	6.7	0.0	0.0	46.7
	Number in Catch	21	64	43	0	21	0	0	149
Total	Percent of Sample	6.7	20.0	40.0	0.0	33.3	0.0	0.0	100.0
	Number in Catch	21	64	128	0	106	0	0	319
	Standard Error	21	34	42	0	40	0	0	

[a] Chum salmon season, 6 in (15.2 cm) stretch mesh maximum.

[b] Chinook salmon season. No mesh size restriction, most fish taken with 8-1/2 in (21.6 cm) mesh.

Appendix Table 16. Yukon River District 1 chinook salmon commercial gill net catch, age, and sex composition by sampling period, 1986.

		Brood Year and Age Group							
		1982	1981	1980		1979		1978	
		1.2	1.3	1.4	2.3	1.5	2.4	2.5	Total
Stratum Dates: 6/14	Sample Period 1[a]								
Sample Dates: 6/14-6/15									
Sample Size: 271									
Female	Percent of Sample	0.0	1.1	15.9	0.4	7.0	0.4	0.4	25.1
	Number in Catch	0	29	423	10	187	10	10	669
Male	Percent of Sample	1.8	46.1	21.0	0.4	5.2	0.4	0.0	74.9
	Number in Catch	49	1,228	560	10	138	10	0	1,995
Total	Percent of Sample	1.8	47.2	36.9	0.7	12.2	0.7	0.4	100.0
	Number in Catch	49	1,257	983	20	324	20	10	2,663
	Standard Error	22	81	78	14	53	14	10	
Stratum Dates: 6/19-6/24	Sample Period 2[b]								
Sample Dates: 6/20-6/24									
Sample Size: 689									
Female	Percent of Sample	0.0	5.7	23.7	0.3	14.8	0.4	0.2	45.1
	Number in Catch	0	1,824	7,575	92	4,745	122	62	14,420
Male	Percent of Sample	1.1	20.7	20.8	0.4	11.0	0.9	0.0	54.9
	Number in Catch	366	6,607	6,665	122	3,519	279	0	17,558
Total	Percent of Sample	1.1	26.4	44.5	0.7	25.8	1.3	0.2	100.0
	Number in Catch	366	8,431	14,240	215	8,264	401	62	31,979
	Standard Error	122	564	642	102	568	148	62	
Stratum Dates: 6/25-7/02	Sample Period 3[a]								
Sample Dates: 6/26-7/02									
Sample Size: 347									
Female	Percent of Sample	0.0	9.7	19.4	0.3	8.9	0.0	0.0	38.3
	Number in Catch	0	553	1,105	17	507	0	0	2,182
Male	Percent of Sample	2.9	41.9	12.9	0.3	3.2	0.6	0.0	61.8
	Number in Catch	163	2,387	737	17	182	34	0	3,520
Total	Percent of Sample	2.9	51.6	32.3	0.6	12.1	0.6	0.0	100.0
	Number in Catch	163	2,939	1,842	34	687	34	0	5,699
	Standard Error	51	154	144	24	100	24	0	

- Continued -

Appendix Table 16. Yukon River District 1 chinook salmon commercial gill net catch, age, and sex composition by sampling period, 1986 (continued).

		Brood Year and Age Group							
		1982	1981	1980		1979		1978	
		1.2	1.3	1.4	2.3	1.5	2.4	2.5	Total
Stratum Dates: 6/29-7/04	Sample Period 4[b]								
Sample Dates: 6/30-7/04									
Sample Size: 625									
Female	Percent of Sample	0.0	6.2	33.8	0.0	15.4	0.2	0.2	55.7
	Number in Catch	0	682	3,696	0	1,680	20	20	6,098
Male	Percent of Sample	0.5	21.1	14.1	0.0	8.3	0.3	0.0	44.3
	Number in Catch	52	2,312	1,539	0	906	36	0	4,845
Total	Percent of Sample	0.5	27.4	47.8	0.0	23.6	0.5	0.2	100.0
	Number in Catch	52	2,994	5,235	0	2,587	55	20	10,943
	Standard Error	30	196	220	0	188	32	20	
Stratum Dates: 7/07-8/22	Sample Period 5[a]								
Sample Dates: 7/08-7/15									
Sample Size: 100									
Female	Percent of Sample	0.0	9.7	17.4	0.0	12.6	0.7	0.0	40.4
	Number in Catch	0	170	304	0	220	12	0	707
Male	Percent of Sample	4.0	40.3	11.4	0.0	4.0	0.0	0.0	59.6
	Number in Catch	70	706	200	0	70	0	0	1,045
Total	Percent of Sample	4.0	50.0	28.7	0.0	16.5	0.7	0.0	100.0
	Number in Catch	70	876	504	0	289	12	0	1,751
	Standard Error	31	83	82	0	63	12	0	
Stratum Dates: 6/14-8/22	Season Total								
Sample Dates: 6/14-7/15									
Sample Size: 2,032									
Female	Percent of Sample	0.0	6.1	24.7	0.2	13.8	0.3	0.2	45.4
	Number in Catch	0	3,258	13,102	119	7,338	164	92	24,073
Male	Percent of Sample	1.3	25.0	18.3	0.3	9.1	0.7	0.0	54.6
	Number in Catch	700	13,239	9,702	150	4,813	358	0	28,961
Total	Percent of Sample	1.3	31.1	43.0	0.5	22.9	1.0	0.2	100.0
	Number in Catch	700	16,497	22,804	269	12,151	522	92	53,035
	Standard Error	141	628	703	106	612	154	66	

[a] Chum salmon season, 6 in (15.2 cm) stretch mesh maximum.

[b] Chinook salmon season. No mesh size restriction, most fish taken with 8-1/2 in (21.6 cm) mesh.

Appendix Table 17. Yukon River District 2 chinook salmon commercial gill net catch, age, and sex composition by fishing period, 1986.

		Brood Year and Age Group								
		1982	1981		1980		1979		1978	
		1.2	1.3	2.2	1.4	2.3	1.5	2.4	2.5	Total
Stratum Dates: 6/15 Period 1[a]										
Sample Dates: 6/15										
Sample Size: 143										
Female	Percent of Sample	0.0	7.7	0.0	10.5	0.0	9.1	0.7	0.0	28.0
	Number in Catch	0	61	0	84	0	73	6	0	224
Male	Percent of Sample	5.6	42.0	0.0	15.4	1.4	7.0	0.7	0.0	72.0
	Number in Catch	45	335	0	123	11	56	6	0	576
Total	Percent of Sample	5.6	49.7	0.0	25.9	1.4	16.1	1.4	0.0	100.0
	Number in Catch	45	396	0	207	11	128	11	0	798
	Standard Error	15	33	0	29	8	25	8	0	
Stratum Dates: 6/21 Period 2[a]										
Sample Dates: 6/21										
Sample Size: 182										
Female	Percent of Sample	1.1	15.9	0.0	10.4	1.1	3.3	0.5	0.0	32.4
	Number in Catch	19	281	0	184	19	58	10	0	571
Male	Percent of Sample	7.7	34.6	0.0	15.9	2.2	6.6	0.5	0.0	67.6
	Number in Catch	136	610	0	281	39	116	10	0	1,192
Total	Percent of Sample	8.8	50.5	0.0	26.4	3.3	9.9	1.1	0.0	100.0
	Number in Catch	155	891	0	465	58	174	19	0	1,762
	Standard Error	37	65	0	58	23	39	14	0	
Stratum Dates: 6/22-6/23 Period 3[b]										
Sample Dates: 6/23										
Sample Size: 345										
Female	Percent of Sample	0.0	3.8	0.0	22.6	0.0	13.3	0.0	0.3	40.0
	Number in Catch	0	547	0	3,279	0	1,934	0	42	5,802
Male	Percent of Sample	0.0	25.5	0.0	21.4	0.3	12.5	0.3	0.0	60.0
	Number in Catch	0	3,700	0	3,111	42	1,808	42	0	8,703
Total	Percent of Sample	0.0	29.3	0.0	44.1	0.3	25.8	0.3	0.3	100.0
	Number in Catch	0	4,246	0	6,391	42	3,742	42	42	14,505
	Standard Error	0	356	0	388	42	342	42	42	

- Continued -

Appendix Table 17. Yukon River District 2 chinook salmon commercial gill net catch, age, and sex composition by fishing period, 1986 (continued).

		Brood Year and Age Group								
		1982	1981		1980		1979		1978	
		1.2	1.3	2.2	1.4	2.3	1.5	2.4	2.5	Total
Stratum Dates: 6/26-6/27 Period 5[b]										
Sample Dates: 6/27										
Sample Size: 364										
Female	Percent of Sample	0.0	4.4	0.0	26.9	0.5	12.6	1.1	0.3	45.9
	Number in Catch	0	538	0	3,298	67	1,548	135	34	5,620
Male	Percent of Sample	0.5	29.4	0.0	17.9	0.3	6.0	0.0	0.0	54.1
	Number in Catch	67	3,600	0	2,187	34	740	0	0	6,628
Total	Percent of Sample	0.5	33.8	0.0	44.8	0.8	18.7	1.1	0.3	100.0
	Number in Catch	67	4,138	0	5,485	101	2,288	135	34	12,248
	Standard Error	48	304	0	320	58	251	67	34	
Stratum Dates: 7/01-7/02 Period 6[b]										
Sample Dates: 7/02										
Sample Size: 390										
Female	Percent of Sample	0.0	5.6	0.0	26.4	0.3	18.5	1.0	0.3	52.1
	Number in Catch	0	418	0	1,959	19	1,369	76	19	3,860
Male	Percent of Sample	0.8	21.5	0.0	16.4	0.5	8.7	0.0	0.0	47.9
	Number in Catch	57	1,598	0	1,217	38	647	0	0	3,557
Total	Percent of Sample	0.8	27.2	0.0	42.8	0.8	27.2	1.0	0.3	100.0
	Number in Catch	57	2,016	0	3,176	57	2,016	76	19	7,417
	Standard Error	33	167	0	186	33	167	38	19	
Stratum Dates: 7/06-7/07 Period 8[b]										
Sample Dates: 7/07										
Sample Size: 334										
Female	Percent of Sample	0.0	4.2	0.0	33.8	0.0	22.8	0.9	0.6	62.3
	Number in Catch	0	102	0	823	0	554	22	15	1,516
Male	Percent of Sample	0.3	12.9	0.3	17.1	0.6	6.0	0.6	0.0	37.7
	Number in Catch	7	313	7	415	15	146	15	0	918
Total	Percent of Sample	0.3	17.1	0.3	50.9	0.6	28.7	1.5	0.6	100.0
	Number in Catch	7	415	7	1,238	15	700	36	15	2,433
	Standard Error	7	50	7	67	10	60	16	10	

[a] Chum salmon season, 6 in (15.2 cm) stretch mesh maximum.

[b] Chinook salmon season. No mesh size restriction, most fish taken with 8-1/2 in (21.6 cm) mesh.

Appendix Table 18. Yukon River District 2 chinook salmon commercial gill net catch, age, and sex composition by sampling period, 1986.

		Brood Year and Age Group								
		1982	1981		1980		1979		1978	
		1.2	1.3	2.2	1.4	2.3	1.5	2.4	2.5	Total
Stratum Dates:	6/15-6/24	Sample Period 1[a,b]								
Sample Dates:	6/15-6/21									
Sample Size:	325									
Female	Percent of Sample	0.7	13.4	0.0	10.5	0.7	5.1	0.6	0.0	31.0
	Number in Catch	27	484	0	379	27	185	21	0	1,124
Male	Percent of Sample	7.1	36.9	0.0	15.8	2.0	6.7	0.6	0.0	69.0
	Number in Catch	256	1,337	0	572	71	242	21	0	2,499
Total	Percent of Sample	7.8	50.3	0.0	26.3	2.7	11.8	1.2	0.0	100.0
	Number in Catch	283	1,821	0	951	98	427	42	0	3,623
	Standard Error	54	101	0	89	33	65	22	0	
Stratum Dates:	6/22-6/27	Sample Period 2[c]								
Sample Dates:	6/23-6/27									
Sample Size:	709									
Female	Percent of Sample	0.0	4.1	0.0	24.6	0.3	13.0	0.5	0.3	42.7
	Number in Catch	0	1,085	0	6,577	67	3,482	135	76	11,422
Male	Percent of Sample	0.3	27.3	0.0	19.8	0.3	9.5	0.2	0.0	57.3
	Number in Catch	67	7,300	0	5,298	76	2,548	42	0	15,331
Total	Percent of Sample	0.3	31.3	0.0	44.4	0.5	22.5	0.7	0.3	100.0
	Number in Catch	67	8,384	0	11,876	143	6,030	177	76	26,753
	Standard Error	48	468	0	503	72	424	79	54	
Stratum Dates:	7/01-7/07	Sample Period 3[c]								
Sample Dates:	7/02-7/07									
Sample Size:	724									
Female	Percent of Sample	0.0	5.3	0.0	28.2	0.2	19.5	1.0	0.3	54.6
	Number in Catch	0	520	0	2,782	19	1,923	97	34	5,375
Male	Percent of Sample	0.6	19.4	0.1	16.6	0.5	8.1	0.2	0.0	45.4
	Number in Catch	64	1,911	7	1,632	53	793	15	0	4,475
Total	Percent of Sample	0.6	24.7	0.1	44.8	0.7	27.6	1.1	0.3	100.0
	Number in Catch	64	2,431	7	4,414	72	2,716	112	34	9,850
	Standard Error	34	175	7	198	34	178	41	22	

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Appendix Table 18. Yukon River District 2 chinook salmon commercial gill net catch, age, and sex composition by sampling period, 1986 (continued).

		Brood Year and Age Group								
		1982	1981		1980		1979		1978	
		1.2	1.3	2.2	1.4	2.3	1.5	2.4	2.5	Total
Stratum Dates:	7/03-8/20	Sample Period 4[a,b]								
Female	Percent of Sample	0.7	13.4	0.0	10.5	0.7	5.1	0.6	0.0	31.0
	Number in Catch	12	217	0	170	12	83	10	0	503
Male	Percent of Sample	7.1	36.9	0.0	15.8	2.0	6.7	0.6	0.0	69.0
	Number in Catch	115	599	0	256	32	108	10	0	1,120
Total	Percent of Sample	7.8	50.3	0.0	26.3	2.7	11.8	1.2	0.0	100.0
	Number in Catch	127	816	0	426	44	191	19	0	1,623
	Standard Error	24	45	0	40	15	29	10	0	
Stratum Dates:	6/15-8/20	Season Total								
Sample Dates:	6/15-7/07									
Sample Size:	1,758									
Female	Percent of Sample	0.1	5.5	0.0	23.7	0.3	13.6	0.6	0.3	44.0
	Number in Catch	39	2,306	0	9,908	125	5,673	263	110	18,424
Male	Percent of Sample	1.2	26.6	0.0	18.5	0.6	8.8	0.2	0.0	56.0
	Number in Catch	502	11,148	7	7,758	231	3,691	88	0	23,425
Total	Percent of Sample	1.3	32.1	0.0	42.2	0.9	22.4	0.8	0.3	100.0
	Number in Catch	541	13,452	7	17,667	356	9,365	350	110	41,849
	Standard Error	83	512	7	549	87	465	92	58	

[a] Chum salmon season, 6 in (15.2 cm) stretch mesh maximum.

[b] Based on District 2 commercial catch samples from fishing periods 1 and 2 (6/15-6/21).

[c] Chinook salmon season. No mesh size restriction, most fish taken with 8-1/2 in (21.6 cm) mesh.

Appendix Table 19. Yukon River District 3 chinook salmon commercial gill net catch, age, and sex composition, 1986.[a]

		Brood Year and Age Group								
		1982	1981		1980		1979		1978	
		1.2	1.3	2.2	1.4	2.3	1.5	2.4	2.5	Total
Female	Percent of Sample	0.1	5.5	0.0	23.7	0.3	13.6	0.6	0.3	44.0
	Number in Catch	1	50	0	213	3	122	6	2	397
Male	Percent of Sample	1.2	26.6	0.0	18.5	0.6	8.8	0.2	0.0	56.0
	Number in Catch	11	240	0	167	5	79	2	0	504
Total	Percent of Sample	1.3	32.1	0.0	42.2	0.9	22.4	0.8	0.3	100.0
	Number in Catch	12	290	0	380	8	202	8	2	901

[a] Based on District 2 commercial 6 in (15.2 cm) and 8-1/2 in (21.6 cm) mesh gill net samples.

Appendix Table 20. Yukon River District 4 chinook salmon catch, age, and sex composition, 1986.[a]

		Brood Year and Age Group							
		1982	1981	1980		1979		1978	
		1.2	1.3	1.4	2.3	1.5	2.4	2.5	Total
Stratum Dates: 6/22-7/25[b]									
Sample Dates: 7/03-7/22									
Sample Size: 268[c]									
Female	Percent of Sample	0.0	4.1	16.4	1.1	13.4	1.9	1.1	38.1
	Number in Catch	0	414	1,655	113	1,355	188	113	3,838
Male	Percent of Sample	4.9	26.9	18.7	4.1	5.2	0.7	1.5	61.9
	Number in Catch	489	2,709	1,882	414	527	75	151	6,247
Total	Percent of Sample	4.9	31.0	35.1	5.2	18.7	2.6	2.6	100.0
	Number in Catch	489	3,123	3,537	527	1,882	263	264	10,085
	Standard Error	133	285	295	137	240	98	98	

[a] Pooled commercial and subsistence, gill net and fish wheel catch. Based on District 4 commercial and subsistence catch samples pooled, taken with various mesh size gill nets, up to 8-1/2 in (21.6 cm) maximum, and fish wheels.

[b] Commercial season.

[c] Includes 214 gill net samples and 27 fish wheel samples.

Appendix Table 21. Yukon River District 5 chinook salmon gill net catch, age, and sex composition, 1986.[a]

		Brood Year and Age Group								
		1983	1982	1981	1980		1979		1978	
		1.1	1.2	1.3	1.4	2.3	1.5	2.4	2.5	Total
Stratum Dates:	6/27-7/29[b]									
Sample Dates:	7/09-7/27									
Sample Size:	482									
Female	Percent of Sample	0.0	0.0	3.3	22.6	0.8	19.1	3.1	2.3	51.2
	Number in Catch	0	0	322	2,195	81	1,854	302	222	4,976
Male	Percent of Sample	0.2	2.3	9.8	18.7	2.1	11.8	2.7	1.2	48.8
	Number in Catch	20	222	947	1,814	202	1,149	262	121	4,737
Total	Percent of Sample	0.2	2.3	13.1	41.3	2.9	30.9	5.8	3.5	100.0
	Number in Catch	20	222	1,270	4,009	282	3,003	564	343	9,713
	Standard Error	20	66	149	218	74	205	104	82	

[a] Pooled commercial and subsistence catch. Based on District 5 commercial and subsistence catch samples pooled, taken with various mesh size gill nets up to 8-1/2 in (21.6 cm) maximum.

[b] Commercial season.

Appendix Table 22. Yukon River District 5 chinook salmon fish wheel catch, age, and sex composition, 1986.[a]

		Brood Year and Age Group								
		1983	1982	1981	1980		1979		1978	
		1.1	1.2	1.3	1.4	2.3	1.5	2.4	2.5	Total
Stratum Dates:	6/27-7/19[b]									
Sample Dates:	7/09-7/27									
Sample Size:	499									
Female	Percent of Sample	0.4	8.8	0.0	16.8	1.2	5.6	2.0	0.4	35.3
	Number in Catch	36	794	0	1,516	108	505	181	36	3,176
Male	Percent of Sample	5.6	36.5	0.2	9.8	6.0	3.8	2.4	0.4	64.7
	Number in Catch	506	3,285	18	885	542	343	217	36	5,832
Total	Percent of Sample	6.0	45.3	0.2	26.7	7.2	9.4	4.4	0.8	100.0
	Number in Catch	542	4,079	18	2,401	650	848	398	72	9,008
	Standard Error	96	201	18	178	104	118	83	36	

[a] Pooled commercial and subsistence catch. Based on District 5 commercial and subsistence catch samples pooled taken with fish wheels.

[b] Commercial season.

Appendix Table 23. Yukon River District 6 chinook salmon catch, age, and sex composition, 1986.[a]

		Brood Year and Age Group					
		1982	1981	1980		1979	
		1.2	1.3	1.4	2.3	1.5	Total
Stratum Dates:	7/04-8/13[b]						
Sample Dates:	7/08-7/27						
Sample Size:	294[c]						
Female	Percent of Sample	0.0	4.1	21.1	0.0	10.2	35.4
	Number in Catch	0	190	981	0	475	1,646
Male	Percent of Sample	4.4	41.8	14.3	2.0	2.0	64.6
	Number in Catch	206	1,945	664	95	95	3,005
Total	Percent of Sample	4.4	45.9	35.4	2.0	12.2	100.0
	Number in Catch	206	2,135	1,645	95	570	4,651
	Standard Error	56	135	130	38	89	

[a] Pooled commercial and subsistence, gill net and fish wheel catches. Based on District 6 commercial and subsistence catch samples pooled, taken with various mesh size gill nets, up to 8-1/2 in (21.6 cm) maximum, and fish wheels.

[b] Commercial season.

[c] Includes 104 gill net samples and 190 fish wheel samples.

Appendix Table 24. Yukon Territory chinook salmon commercial catch, age, and sex composition, 1986.[a]

		Brood Year and Age Group						
		1981	1980		1979		1978	
		1.3	1.4	2.3	1.5	2.4	2.5	Total
Stratum Dates:	7/02-10/02							
Sample Dates:	7/21-8/04							
Sample Size:	182							
Female	Percent of Sample	2.7	26.9	1.1	25.8	0.5	0.5	57.7
	Number in Catch	297	2,907	119	2,788	59	59	6,229
Male	Percent of Sample	12.6	18.1	0.0	11.5	0.0	0.0	42.3
	Number in Catch	1,364	1,958	0	1,246	0	0	4,568
Total	Percent of Sample	15.4	45.1	1.1	37.4	0.5	0.5	100.0
	Number in Catch	1,661	4,865	119	4,034	59	59	10,797
	Standard Error	290	399	84	388	59	59	

[a] Based on Yukon Territory commercial 8-1/2 in (21.6 cm) mesh gill net catch samples.

Appendix Table 25. Yukon River District 1 chinook salmon subsistence catch, age, and sex composition, 1986.[a]

		Brood Year and Age Group							
		1982	1981	1980		1979		1978	
		1.2	1.3	1.4	2.3	1.5	2.4	2.5	Total
Female	Percent of Sample	0.0	6.1	24.7	0.2	13.8	0.3	0.2	45.4
	Number in Catch	0	324	1,303	12	730	16	9	2,394
Male	Percent of Sample	1.3	25.0	18.3	0.3	9.1	0.7	0.0	54.6
	Number in Catch	70	1,316	965	15	479	36	0	2,881
Total	Percent of Sample	1.3	31.1	43.0	0.5	22.9	1.0	0.2	100.0
	Number in Catch	70	1,640	2,268	27	1,209	52	9	5,275

[a] Based on District 1 commercial 6 in (15.2 cm) and 8-1/2 in (21.6 cm) mesh gill net samples.

Appendix Table 26. Yukon River District 2 chinook salmon subsistence catch, age, and sex composition, 1986.[a]

		Brood Year and Age Group								
		1982	1981		1980		1979		1978	
		1.2	1.3	2.2	1.4	2.3	1.5	2.4	2.5	Total
Female	Percent of Sample	0.1	5.5	0.0	23.7	0.3	13.6	0.6	0.3	44.0
	Number in Catch	6	357	0	1,535	19	879	40	17	2,853
Male	Percent of Sample	1.2	26.6	0.0	18.5	0.6	8.8	0.2	0.0	56.0
	Number in Catch	78	1,727	1	1,202	36	572	14	0	3,630
Total	Percent of Sample	1.3	32.1	0.0	42.2	0.9	22.4	0.8	0.3	100.0
	Number in Catch	84	2,084	1	2,737	55	1,451	54	17	6,483

[a] Based on District 2 commercial 6 in (15.2 cm) and 8-1/2 in (21.6 cm) mesh gill net samples.

Appendix Table 27. Yukon River District 3 chinook salmon subsistence catch, age, and sex composition, 1986.[a]

		Brood Year and Age Group								
		1982	1981		1980		1979		1978	
		1.2	1.3	2.2	1.4	2.3	1.5	2.4	2.5	Total
Female	Percent of Sample	0.1	5.5	0.0	23.7	0.3	13.6	0.6	0.3	44.0
	Number in Catch	4	234	0	1,007	13	576	27	11	1,872
Male	Percent of Sample	1.2	26.6	0.0	18.5	0.6	8.8	0.2	0.0	56.0
	Number in Catch	51	1,133	1	788	23	375	9	0	2,380
Total	Percent of Sample	1.3	32.1	0.0	42.2	0.9	22.4	0.8	0.3	100.0
	Number in Catch	55	1,367	1	1,795	36	951	36	11	4,252

[a] Based on District 2 commercial 6 in (15.2 cm) and 8-1/2 in (21.6 cm) mesh gill net samples.

Appendix Table 28. Yukon Territory chinook salmon subsistence catch, age, and sex composition, 1986.[a]

		Brood Year and Age Group						
		1981	1980		1979		1978	
		1.3	1.4	2.3	1.5	2.4	2.5	Total
Female	Percent of Sample	2.7	26.9	1.1	25.8	0.5	0.5	57.7
	Number in Catch	255	2,495	102	2,393	51	51	5,347
Male	Percent of Sample	12.6	18.1	0.0	11.5	0.0	0.0	42.3
	Number in Catch	1,171	1,680	0	1,069	0	0	3,920
Total	Percent of Sample	15.4	45.1	1.1	37.4	0.5	0.5	100.0
	Number in Catch	1,426	4,175	102	3,462	51	51	9,267

[a] Based on Yukon Territory commercial 8-1/2 in (21.6 cm) mesh gill net catch samples.

Appendix Table 29. Yukon River chinook salmon samples by age, sex, and length (mm), collected in 1986 but not used to estimate fishery catch or escapement age compositions.[a]

Location, Gear, and Date	Sex		Brood Year and Age Group 1983 1.1	1982 1.2	1981 1.3	1980 1.4	1980 2.3	1979 1.5	1979 2.4	1978 2.5	Total
Big Eddy[b] 8-1/2 in Gill Net 6/06-7/13	Female	Mean Length			784	855		898	858		
		Percent			5.5	25.7		14.1	0.8		46.1
		Sample Size			22	102		56	3		183
	Male	Mean Length	445	525	767	850		901	850	960	
		Percent	0.3	0.8	16.6	26.4		9.3	0.3	0.3	53.9
		Sample Size	1	3	66	105		37	1	1	214
	Total	Percent	0.3	0.8	22.2	52.1		23.4	1.0	0.3	100.0
		Sample Size	1	3	88	207		93	4	1	397
Big Eddy[b] 5-1/2 in Gill Net 6/09-7/13	Female	Mean Length		600	694			880			
		Percent		1.0	8.8			1.0			10.8
		Sample Size		1	9			1			11
	Male	Mean Length		546	668	768		862			
		Percent		20.6	57.8	8.8		2.0			89.2
		Sample Size		21	59	9		2			91
	Total	Percent		21.6	66.7	8.8		2.9			100.0
		Sample Size		22	68	9		3			102
Mid Mouth[b] 8-1/2 in Gill Net 6/08-6/24	Female	Mean Length			775	859		873			
		Percent			9.6	27.2		10.3			47.1
		Sample Size			13	37		14			64
	Male	Mean Length		555	769	853		920			
		Percent		1.5	14.7	27.9		8.8			52.9
		Sample Size		2	20	38		12			72
	Total	Percent		1.5	24.3	55.1		19.1			100.0
		Sample Size		2	33	75		26			136
Mid Mouth[b] 5-1/2 in Gill Net 6/10-6/28	Female	Mean Length		540	669	827		880			
		Percent		1.1	16.3	9.6		1.7			28.7
		Sample Size		2	29	17		3			51
	Male	Mean Length		550	671	809		870			
		Percent		10.7	50.0	9.6		1.1			71.3
		Sample Size		19	89	17		2			127
	Total	Percent		11.8	66.3	19.1		2.8			100.0
		Sample Size		21	118	34		5			178

- Continued -

Appendix Table 29. Yukon River chinook salmon samples by age, sex, and length (mm), collected in 1986 but not used to estimate fishery catch or escapement age compositions (continued).[a]

Location, Gear, and Date	Sex		Brood Year and Age Group 1983 1.1	1982 1.2	1981 1.3	1980 1.4	1980 2.3	1979 1.5	1979 2.4	1978 2.5	Total
District 1	Female	Mean Length				840					
Subsistence		Percent				25.0					25.0
Gill Net		Sample Size				2					2
6/12											
	Male	Mean Length				879		952			
		Percent				50.0		25.0			75.0
		Sample Size				4		2			6
	Total	Percent				75.0		25.0			100.0
		Sample Size				6		2			8
Koyukuk R	Female	Mean Length			688	870		903	855		
Subsistence		Percent			4.4	15.6		11.1	2.2		33.3
Gill Net		Sample Size			2	7		5	1		15
7/07-7/15											
	Male	Mean Length		530	700	800	685	968	850	740	
		Percent		2.2	15.6	28.9	4.4	11.1	2.2	2.2	66.7
		Sample Size		1	7	13	2	5	1	1	30
	Total	Percent		2.2	20.0	44.4	4.4	22.2	4.4	2.2	100.0
		Sample Size		1	9	20	2	10	2	1	45
Ruby TF[c]	Female	Mean Length		540		855		857			
Fish Wheel		Percent		9.1		27.3		27.3			63.6
8/08-8/18		Sample Size		1		3		3			7
	Male	Mean Length			705	778					
		Percent			18.2	18.2					36.4
		Sample Size			2	2					4
	Total	Percent		9.1	18.2	45.5		27.3			100.0
		Sample Size		1	2	5		3			11
Yuk Terr[d]	Female	Mean Length		520	737	873	680	953	865	945	
Fish Wheel		Percent		0.6	5.6	19.8	0.6	9.6	2.3	1.1	39.5
7/21-8/04		Sample Size		1	10	35	1	17	4	2	70
	Male	Mean Length		595	756	852	720	1048	860		
		Percent		5.6	31.1	15.8	3.4	3.4	1.1		60.5
		Sample Size		10	55	28	6	6	2		107
	Total	Percent		6.2	36.7	35.6	4.0	13.0	3.4	1.1	100.0
		Sample Size		11	65	63	7	23	6	2	177

- Continued -

Appendix Table 29. Yukon River chinook salmon samples by age, sex, and length (mm), collected in 1986 but not used to estimate fishery catch or escapement age compositions (continued).[a]

Location, Gear, and Date	Sex		Brood Year and Age Group 1983 1.1	1982 1.2	1981 1.3	1980 1.4	1980 2.3	1979 1.5	1979 2.4	1978 2.5	Total
Whitehorse	Female	Mean Length			792	855	795	925	842	933	
Hatchery		Percent			3.7	39.6	1.5	15.7	9.0	2.2	71.6
Eggtake		Sample Size			5	53	2	21	12	3	96
8/12-8/25											
	Male	Mean Length			748	889	786	1200	870	960	
		Percent			9.0	9.0	5.2	0.7	3.7	0.7	28.4
		Sample Size			12	12	7	1	5	1	38
	Total	Percent			12.7	48.5	6.7	16.4	12.7	3.0	100.0
		Sample Size			17	65	9	22	17	4	134

[a] Length measured from mid-orbit to fork of tail, except for Yukon Territory fishwheel and Whitehorse Hatchery eggtake samples, which were measured from tip of snout to fork of tail.

[b] Test fishing project located in District 1 near Emmonak.

[c] Test fishing project located in District 4.

[d] Tagging study capture site located approximately 3 miles upstream from US-Canada border in Yukon Territory.

Appendix Table 30. Yukon River District 1 summer chum salmon commercial catch, age, and sex composition by sample period, 1986.

		Brood Year and Age Group				
		1983	1982	1981	1980	
		0.2	0.3	0.4	0.5	Total
Stratum Dates:	6/14					
Sample Dates:	6/14					
Sample Size:	285[a]					
Female	Percent of Sample	0.0	2.8	30.9	0.4	34.1
	Number in Catch	0	1,847	20,386	264	22,497
Male	Percent of Sample	0.0	10.2	55.3	0.4	65.9
	Number in Catch	0	6,729	36,484	264	43,477
Total	Percent of Sample	0.0	13.0	86.2	0.8	100.0
	Number in Catch	0	8,576	56,870	528	65,974
	Standard Error	0	0	0	0	
Stratum Dates:	6/19-6/24					
Sample Dates:	6/20-6/24					
Sample Size:	473[b]					
Female	Percent of Sample	0.0	10.4	41.7	0.2	52.3
	Number in Catch	0	8,979	36,001	173	45,153
Male	Percent of Sample	0.0	13.1	33.8	0.8	47.7
	Number in Catch	0	11,310	29,181	690	41,181
Total	Percent of Sample	0.0	23.5	75.5	1.0	100.0
	Number in Catch	0	20,289	65,182	863	86,334
	Standard Error	0	0	0	0	
Stratum Dates:	6/25-6/26					
Sample Dates:	6/26					
Sample Size:	448[a]					
Female	Percent of Sample	0.0	11.4	37.9	1.1	50.4
	Number in Catch	0	8,492	28,234	819	37,545
Male	Percent of Sample	0.0	13.2	35.5	0.9	49.6
	Number in Catch	0	9,833	26,446	670	36,949
Total	Percent of Sample	0.0	24.6	73.4	2.0	100.0
	Number in Catch	0	18,325	54,680	1,489	74,494
	Standard Error	0	0	0	0	

- Continued -

Appendix Table 30. Yukon River District 1 summer chum salmon commercial catch, age, and sex composition by sample period, 1986 (continued).

		Brood Year and Age Group				
		1983	1982	1981	1980	
		0.2	0.3	0.4	0.5	Total
Stratum Dates:	6/29-7/04					
Sample Dates:	6/30-7/04					
Sample Size:	468[b]					
Female	Percent of Sample	0.0	12.4	36.0	0.9	49.3
	Number in Catch	0	5,666	16,451	411	22,528
Male	Percent of Sample	0.0	18.2	31.4	1.1	50.7
	Number in Catch	0	8,317	14,349	503	23,169
Total	Percent of Sample	0.0	30.6	67.4	2.0	100.0
	Number in Catch	0	13,983	30,800	914	45,697
	Standard Error	0	0	0	0	
Stratum Dates:	7/02-7/08					
Sample Dates:	7/02-7/08					
Sample Size:	477[a]					
Female	Percent of Sample	0.2	14.3	35.4	0.0	49.9
	Number in Catch	144	10,263	25,406	0	35,813
Male	Percent of Sample	0.0	23.1	26.4	0.6	50.1
	Number in Catch	0	16,577	18,946	431	35,954
Total	Percent of Sample	0.2	37.4	61.8	0.6	100.0
	Number in Catch	144	26,840	44,352	431	71,767
	Standard Error	0	0	0	0	
Stratum Dates:	7/10-7/15					
Sample Dates:	7/11-7/15					
Sample Size:	468[a]					
Female	Percent of Sample	0.2	18.4	32.3	1.1	52.0
	Number in Catch	74	6,782	11,906	406	19,168
Male	Percent of Sample	0.0	22.2	25.2	0.6	48.0
	Number in Catch	0	8,183	9,289	221	17,693
Total	Percent of Sample	0.2	40.6	57.5	1.7	100.0
	Number in Catch	74	14,965	21,195	627	36,861
	Standard Error	0	0	0	0	

- Continued -

Appendix Table 30. Yukon River District 1 summer chum salmon commercial catch, age, and sex composition by sample period, 1986 (continued).

		Brood Year and Age Group				
		1983	1982	1981	1980	
		0.2	0.3	0.4	0.5	Total
Stratum Dates:	6/14-7/15					
Sample Dates:	6/14-7/15					
Sample Size:	2,619					
Female	Percent of Sample	0.1	11.0	36.3	0.5	47.9
	Number in Catch	218	42,029	138,384	2,072	182,703
Male	Percent of Sample	0.0	16.0	35.3	0.7	52.1
	Number in Catch	0	60,949	134,694	2,781	198,424
Total	Percent of Sample	0.1	27.0	71.7	1.3	100.0
	Number in Catch	218	102,978	273,078	4,853	381,127
	Standard Error	166	3,326	3,379	850	

[a] Based on samples from District 1 commercial catch during 6 in (15.2 cm) maximum mesh size gill net fishing period(s).

[b] Based on samples from District 1 commercial catch during unrestricted mesh size gill net fishing period(s).

Appendix Table 31. Yukon River District 2 summer chum salmon commercial gill net catch, age, and sex composition, 1986.[a]

		Brood Year and Age Group				
		1983	1982	1981	1980	
		0.2	0.3	0.4	0.5	Total
Female	Percent of Sample	0.1	11.0	36.3	0.5	47.9
	Number in Catch	165	31,806	104,725	1,568	138,264
Male	Percent of Sample	0.0	16.0	35.3	0.7	52.1
	Number in Catch	0	46,125	101,933	2,105	150,163
Total	Percent of Sample	0.1	27.0	71.7	1.3	100.0
	Number in Catch	165	77,931	206,658	3,673	288,427

[a] Based on pooled samples from District 1 commercial catch during both unrestricted and 6 in (15.2 cm) maximum mesh size gill net fishing periods.

Appendix Table 32. Yukon River District 3 summer chum salmon commercial gill net catch, age, and sex composition by sample period, 1986.[a]

		Brood Year and Age Group				
		1983	1982	1981	1980	
		0.2	0.3	0.4	0.5	Total
Female	Percent of Sample	0.0	11.1	39.7	0.4	51.2
	Number in Catch	0	49	175	2	226
Male	Percent of Sample	0.0	14.9	33.0	0.9	48.8
	Number in Catch	0	66	146	4	216
Total	Percent of Sample	0.0	26.0	72.7	1.3	100.0
	Number in Catch	0	115	321	6	442

[a] Based on samples from District 1 commercial catch during unrestricted mesh size gill net fishing periods.

Appendix Table 33. Yukon River District 4 summer chum salmon commercial fish wheel catch, age, and sex composition, 1986.[a]

		Brood Year and Age Group				
		1983	1982	1981	1980	
		0.2	0.3	0.4	0.5	Total
Stratum Dates:	6/22-8/01					
Sample Dates:	7/03-7/29					
Sample Size:	429					
Female	Percent of Sample	0.2	21.0	37.1	0.0	58.3
	Number in Catch	635	66,667	117,780	0	185,082
Male	Percent of Sample	0.0	10.0	31.2	0.5	41.7
	Number in Catch	0	31,747	99,049	1,587	132,383
Total	Percent of Sample	0.2	31.0	68.3	0.5	100.0
	Number in Catch	635	98,414	216,829	1,587	317,465
	Standard Error	686	7,097	7,140	1,082	

[a] Based on samples from District 4 commercial fish wheel catch.

Appendix Table 34. Yukon River District 6 summer chum salmon commercial fish wheel catch, age, and sex composition, 1986.[a]

		Brood Year and Age Group				
		1983	1982	1981	1980	
		0.2	0.3	0.4	0.5	Total
Stratum Dates:	7/07-8/13					
Sample Dates:	7/29-8/10					
Sample Size:	425					
Female	Percent of Sample	0.5	23.8	34.6	1.2	60.1
	Number in Catch	237	11,281	16,401	569	28,488
Male	Percent of Sample	0.0	16.2	22.8	0.9	39.9
	Number in Catch	0	7,679	10,807	427	18,913
Total	Percent of Sample	0.5	40.0	57.4	2.1	100.0
	Number in Catch	237	18,960	27,208	996	47,401
	Standard Error	162	1,128	1,138	330	

[a] Based on samples from District 6 commercial fish wheel catch.

Appendix Table 35. Yukon River District 1 summer chum salmon subsistence gill net catch, age, and sex composition, 1986.[a]

		Brood Year and Age Group				
		1983	1982	1981	1980	
		0.2	0.3	0.4	0.5	Total
Female	Percent of Sample	0.1	11.0	36.3	0.5	47.9
	Number in Catch	22	4,285	14,108	211	18,626
Male	Percent of Sample	0.0	16.0	35.3	0.7	52.1
	Number in Catch	0	6,213	13,731	284	20,228
Total	Percent of Sample	0.1	27.0	71.7	1.3	100.0
	Number in Catch	22	10,498	27,839	495	38,854

[a] Based on pooled samples from District 1 commercial catch during both unrestricted and 6 in (15.2 cm) maximum mesh size gill net fishing periods.

Appendix Table 36. Yukon River District 2 summer chum salmon subsistence gill net catch, age, and sex composition, 1986.[a]

		Brood Year and Age Group				
		1983	1982	1981	1980	
		0.2	0.3	0.4	0.5	Total
Female	Percent of Sample	0.1	11.0	36.3	0.5	47.9
	Number in Catch	24	4,576	15,067	225	19,892
Male	Percent of Sample	0.0	16.0	35.3	0.7	52.1
	Number in Catch	0	6,636	14,665	303	21,604
Total	Percent of Sample	0.1	27.0	71.7	1.3	100.0
	Number in Catch	24	11,212	29,732	528	41,496

[a] Based on pooled samples from District 1 commercial catch during both unrestricted and 6 in (15.2 cm) maximum mesh size gill net fishing periods.

Appendix Table 37. Yukon River District 3 summer chum salmon subsistence gill net catch, age, and sex composition, 1986.[a]

		Brood Year and Age Group				
		1983	1982	1981	1980	
		0.2	0.3	0.4	0.5	Total
Female	Percent of Sample	0.1	11.0	36.3	0.5	47.9
	Number in Catch	3	610	2,007	30	2,650
Male	Percent of Sample	0.0	16.0	35.3	0.7	52.1
	Number in Catch	0	884	1,954	40	2,878
Total	Percent of Sample	0.1	27.0	71.7	1.3	100.0
	Number in Catch	3	1,494	3,961	70	5,528

[a] Based on pooled samples from District 1 commercial catch during both unrestricted and 6 in (15.2 cm) maximum mesh size gill net fishing periods.

Appendix Table 38. Yukon River District 4 summer chum salmon subsistence fish wheel catch, age, and sex composition, 1986.[a]

		Brood Year and Age Group				
		1983	1982	1981	1980	
		0.2	0.3	0.4	0.5	Total
Female	Percent of Sample	0.2	21.0	37.1	0.0	58.3
	Number in Catch	282	29,644	52,371	0	82,297
Male	Percent of Sample	0.0	10.0	31.2	0.5	41.7
	Number in Catch	0	14,116	44,042	706	58,864
Total	Percent of Sample	0.2	31.0	68.3	0.5	100.0
	Number in Catch	282	43,760	96,413	706	141,161

[a] Based on samples from District 4 commercial fish wheel catch.

Appendix Table 39. Yukon River District 6 summer chum salmon subsistence fish wheel catch, age, and sex composition, 1986.[a]

		Brood Year and Age Group				
		1983	1982	1981	1980	
		0.2	0.3	0.4	0.5	Total
Female	Percent of Sample	0.5	23.8	34.6	1.2	60.1
	Number in Catch	68	3,246	4,719	164	8,197
Male	Percent of Sample	0.0	16.2	22.8	0.9	39.9
	Number in Catch	0	2,210	3,110	122	5,442
Total	Percent of Sample	0.5	40.0	57.4	2.1	100.0
	Number in Catch	68	5,456	7,829	286	13,639

[a] Based on samples from District 6 commercial fish wheel catch.

Appendix Table 40. Yukon River summer chum salmon samples by age, sex, and length (mm), collected in 1986 but not used to estimate fishery catch or escapement age compositions.[a]

Location, Gear, and Date	Sex	Total		Age 0.2			Age 0.3			Age 0.4			Age 0.5		
		N	%	N	%	Length	N	%	Length	N	%	Length	N	%	Length
Big Eddy[b]	Female	446	55.9	0	0.0	-	108	13.5	554	337	42.2	573	1	0.1	555
5-1/2 in Gill Net	Male	352	44.1	1	0.1	565	99	12.4	571	251	31.5	600	1	0.1	585
6/07-7/02	Total	798	100.0	1	0.1		207	25.9		588	73.7		2	0.3	
Middle Mouth[b]	Female	174	53.4	0	0.0	-	48	14.7	535	125	38.3	557	1	0.3	510
5-1/2 in Gill Net	Male	152	46.6	0	0.0	-	40	12.3	554	110	33.7	574	2	0.6	615
6/11-7/13	Total	326	100.0	0	0.0		88	27.0		235	72.1		3	0.9	
Galena Subs[c]	Female	3	42.9	0	0.0	-	1	14.3	590	2	28.6	620	0	0.0	-
8-1/4 in Gill Net	Male	4	57.1	0	0.0	-	1	14.3	585	3	42.9	630	0	0.0	-
7/04	Total	7	100.0	0	0.0		2	28.6		5	71.4		0	0.0	
Nenana Comm[d]	Female	45	64.3	0	0.0	-	15	21.4	566	30	42.9	577	0	0.0	-
Fish Wheel	Male	25	35.7	0	0.0	-	6	8.6	571	19	27.1	612	0	0.0	-
7/26-7/27	Total	70	100.0	0	0.0		21	30.0		49	70.0		0	0.0	
Nenana Subs[d]	Female	1	12.5	0	0.0	-	1	12.5	595	0	0.0	-	0	0.0	-
8 in Gill Net	Male	7	87.5	0	0.0	-	2	25.0	628	5	62.5	626	0	0.0	-
7/20	Total	8	100.0	0	0.0		3	37.5		5	62.5		0	0.0	
Fairbanks[d]	Female	10	35.7	0	0.0	-	1	3.6	570	9	32.1	590	0	0.0	-
Comm Gill Net	Male	18	64.3	0	0.0	-	7	25.0	586	10	35.7	612	1	3.6	665
8/05-8/06	Total	28	100.0	0	0.0		8	28.6		19	67.9		1	3.6	

[a] Length measured from mid-orbit to fork of tail.
[b] Test fishing project located in District 1 near Emmonak.
[c] Fishery located in District 4.
[d] Fishery located in District 6.

Appendix Table 41. Yukon River District 1 fall chum salmon commercial gill net catch, age, and sex composition by sample period, 1986.[a]

		Brood Year and Age Group				
		1983	1982	1981	1980	
		0.2	0.3	0.4	0.5	Total
Stratum Dates:	8/04-8/08					
Sample Dates:	8/05-8/08					
Sample Size:	455					
Female	Percent of Sample	1.1	45.1	13.2	0.9	60.3
	Number in Catch	208	8,515	2,493	170	11,386
Male	Percent of Sample	1.1	31.4	7.0	0.2	39.7
	Number in Catch	208	5,930	1,322	38	7,498
Total	Percent of Sample	2.2	76.5	20.2	1.1	100.0
	Number in Catch	416	14,445	3,815	208	18,884
	Standard Error	130	376	356	92	
Stratum Dates:	8/12-8/15					
Sample Dates:	8/12-8/15					
Sample Size:	449					
Female	Percent of Sample	3.8	44.3	11.8	0.2	60.1
	Number in Catch	1,016	11,851	3,157	54	16,078
Male	Percent of Sample	2.9	26.1	10.9	0.0	39.9
	Number in Catch	776	6,982	2,916	0	10,674
Total	Percent of Sample	6.7	70.4	22.7	0.2	100.0
	Number in Catch	1,792	18,833	6,073	54	26,752
	Standard Error	316	577	529	56	
Stratum Dates:	8/18-8/22					
Sample Dates:	8/19-8/22					
Sample Size:	462					
Female	Percent of Sample	7.1	44.2	9.1	0.0	60.4
	Number in Catch	974	6,063	1,248	0	8,285
Male	Percent of Sample	5.0	27.3	7.3	0.0	39.6
	Number in Catch	686	3,744	1,001	0	5,431
Total	Percent of Sample	12.1	71.5	16.4	0.0	100.0
	Number in Catch	1,660	9,807	2,249	0	13,716
	Standard Error	208	288	237	0	

- Continued -

Appendix Table 41. Yukon River District 1 fall chum salmon commercial gill net catch, age, and sex composition by sample period, 1986 (continued).[a]

		Brood Year and Age Group				
		1983	1982	1981	1980	
		0.2	0.3	0.4	0.5	Total
Stratum Dates:	8/04-8/22					
Sample Dates:	8/05-8/22					
Sample Size:	1,366					
Female	Percent of Sample	3.7	44.5	11.6	0.4	60.2
	Number in Catch	2,198	26,429	6,898	224	35,749
Male	Percent of Sample	2.8	28.1	8.8	0.1	39.8
	Number in Catch	1,670	16,656	5,239	38	23,603
Total	Percent of Sample	6.5	72.6	20.4	0.5	100.0
	Number in Catch	3,868	43,085	12,137	262	59,352
	Standard Error	400	746	680	108	

[a] Based on samples from District 1 commercial catch during 6 in (15.2 cm) maximum mesh size gill net fishing periods.

Appendix Table 42. Yukon River District 2 fall chum salmon commercial gill net catch, age, and sex composition, 1986.[a]

		Brood Year and Age Group				
		1983	1982	1981	1980	
		0.2	0.3	0.4	0.5	Total
Female	Percent of Sample	3.7	44.5	11.6	0.4	60.2
	Number in Catch	1,900	22,847	5,963	193	30,903
Male	Percent of Sample	2.8	28.1	8.8	0.1	39.8
	Number in Catch	1,444	14,398	4,529	33	20,404
Total	Percent of Sample	6.5	72.6	20.4	0.5	100.0
	Number in Catch	3,344	37,245	10,492	226	51,307

[a] Based on samples from District 1 commercial catch during 6 in (15.2 cm) maximum mesh size gill net fishing periods.

Appendix Table 43. Yukon River District 3 fall chum salmon commercial gill net catch, age, and sex composition, 1986.[a]

		Brood Year and Age Group				
		1983	1982	1981	1980	
		0.2	0.3	0.4	0.5	Total
Female	Percent of Sample	3.7	44.5	11.6	0.4	60.2
	Number in Catch	103	1,244	324	11	1,682
Male	Percent of Sample	2.8	28.1	8.8	0.1	39.8
	Number in Catch	79	783	247	2	1,111
Total	Percent of Sample	6.5	72.6	20.4	0.5	100.0
	Number in Catch	182	2,027	571	13	2,793

[a] Based on samples from District 1 commercial catch during 6 in (15.2 cm) maximum mesh size gill net fishing periods.

Appendix Table 44. Yukon Territory, Canada, fall chum salmon commercial catch, age, and sex composition, 1986.[a]

		Brood Year and Age Group				
		1983	1982	1981	1980	
		0.2	0.3	0.4	0.5	Total
Stratum Dates:	8/02-10/09					
Sample Dates:	9/17-9/26					
Sample Size:	349					
Female	Percent of Sample	0.6	31.8	5.4	0.0	37.8
	Number in Catch	65	3,647	624	0	4,336
Male	Percent of Sample	0.9	48.7	12.3	0.3	62.2
	Number in Catch	99	5,584	1,412	33	7,128
Total	Percent of Sample	1.5	80.5	17.7	0.3	100.0
	Number in Catch	164	9,231	2,036	33	11,464
	Standard Error	72	244	235	34	

[a] Based on samples from Yukon Territory (Dawson area) commercial gill net catch (mesh size not known). An unknown proportion of the Yukon Territory commercial catch is actually harvested by fish wheel.

Appendix Table 45. Yukon River District 1 fall chum salmon subsistence gill net catch, age, and sex composition, 1986.[a]

		Brood Year and Age Group				
		1983	1982	1981	1980	
		0.2	0.3	0.4	0.5	Total
Female	Percent of Sample	3.7	44.5	11.6	0.4	60.2
	Number in Catch	333	4,008	1,046	34	5,421
Male	Percent of Sample	2.8	28.1	8.8	0.1	39.8
	Number in Catch	253	2,526	794	6	3,579
Total	Percent of Sample	6.5	72.6	20.4	0.5	100.0
	Number in Catch	586	6,534	1,840	40	9,000

[a] Based on samples from District 1 commercial catch during 6 in (15.2 cm) maximum mesh size gill net fishing periods.

Appendix Table 46. Yukon River District 2 fall chum salmon subsistence gill net catch, age, and sex composition, 1986.[a]

		Brood Year and Age Group				
		1983	1982	1981	1980	
		0.2	0.3	0.4	0.5	Total
Female	Percent of Sample	3.7	44.5	11.6	0.4	60.2
	Number in Catch	499	6,004	1,567	51	8,121
Male	Percent of Sample	2.8	28.1	8.8	0.1	39.8
	Number in Catch	379	3,784	1,190	9	5,362
Total	Percent of Sample	6.5	72.6	20.4	0.5	100.0
	Number in Catch	878	9,788	2,757	60	13,483

[a] Based on samples from District 1 commercial catch during 6 in (15.2 cm) maximum mesh size gill net fishing periods.

Appendix Table 47. Yukon River District 3 fall chum salmon subsistence gill net catch, age, and sex composition, 1986.[a]

		Brood Year and Age Group				
		1983	1982	1981	1980	
		0.2	0.3	0.4	0.5	Total
Female	Percent of Sample	3.7	44.5	11.6	0.4	60.2
	Number in Catch	66	795	207	7	1,075
Male	Percent of Sample	2.8	28.1	8.8	0.1	39.8
	Number in Catch	50	501	158	1	710
Total	Percent of Sample	6.5	72.6	20.4	0.5	100.0
	Number in Catch	116	1,296	365	8	1,785

[a] Based on samples from District 1 commercial catch during 6 in (15.2 cm) maximum mesh size gill net fishing periods.

Appendix Table 48. Yukon Territory, Canada, fall chum salmon subsistence catch, age, and sex composition, 1986.[a]

		Brood Year and Age Group				
		1983	1982	1981	1980	
		0.2	0.3	0.4	0.5	Total
Female	Percent of Sample	0.6	31.8	5.4	0.0	37.8
	Number in Catch	18	977	167	0	1,162
Male	Percent of Sample	0.9	48.7	12.3	0.3	62.2
	Number in Catch	26	1,496	379	9	1,910
Total	Percent of Sample	1.5	80.5	17.7	0.3	100.0
	Number in Catch	44	2,473	546	9	3,072

[a] Based on samples from Yukon Territory (Dawson area) commercial gill net catch (mesh size not known). An unknown proportion of the Yukon Territory subsistence catch is actually harvested by fish wheel.

Appendix Table 49. Yukon River fall chum salmon samples by age, sex, and length (mm), collected in 1986 but not used to estimate fishery catch or escapement age compositions.[a]

Location, Gear, and Date	Sex	Total		Age 0.2			Age 0.3			Age 0.4			Age 0.5		
		N	%	N	%	Length	N	%	Length	N	%	Length	N	%	Length
Big Eddy[b]	Female	416	48.8	3	0.4	570	237	27.8	592	174	20.4	609	2	0.2	615
6 in Gill Net	Male	436	51.2	11	1.3	567	257	30.2	599	166	19.5	626	2	0.2	618
7/16-8/25	Total	852	100.0	14	1.6		494	58.0		340	39.9		4	0.5	
Middle Mouth[b]	Female	390	65.2	11	1.8	581	221	37.0	591	156	26.1	606	2	0.3	610
6 in Gill Net	Male	208	34.8	5	0.8	599	118	19.7	604	85	14.2	625	0	0.0	-
7/15-8/27	Total	598	100.0	16	2.7		339	56.7		241	40.3		2	0.3	
Ruby NB[c]	Female	462	53.1	8	0.9	520	260	29.9	558	192	22.1	581	2	0.2	590
Fish Wheel	Male	408	46.9	6	0.7	533	225	25.9	591	174	20.0	618	3	0.3	598
8/07-9/07	Total	870	100.0	14	1.6		485	55.7		366	42.1		5	0.6	
Ruby SB[c]	Female	666	54.1	18	1.5	524	465	37.8	560	178	14.5	570	5	0.4	555
Fish Wheel	Male	565	45.9	10	0.8	528	406	33.0	584	147	11.9	602	2	0.2	588
8/06-9/23	Total	1,231	100.0	28	2.3		871	70.8		325	26.4		7	0.6	
Fairbanks[d]	Female	24	39.3	0	0.0	-	16	26.2	580	8	13.1	597	0	0.0	-
Comm Fish Wheel	Male	37	60.7	3	4.9	538	18	29.5	604	16	26.2	612	0	0.0	-
9/13	Total	61	100.0	3	4.9		34	55.7		24	39.3		0	0.0	
Yukon Territory[e]	Female	1,385	53.2	29	1.1	569	1,145	44.0	606	209	8.0	625	2	0.1	605
Fish Wheel	Male	1,217	46.8	6	0.2	583	1,021	39.2	651	188	7.2	675	2	0.1	635
7/23-10/03	Total	2,602	100.0	35	1.3		2,166	83.2		397	15.3		4	0.2	

[a] Length measured from mid-orbit to fork of tail for all samples, except for Yukon Territory tagging study samples, which were measured from tip of snout to fork of tail.

[b] Test fishing project located in District 1 near Emmonak.

[c] Test fishing project located in District 4.

[d] Fishery located in District 6.

[e] Tagging study capture site located approximately 3 miles upstream from US-Canada border in Yukon Territory.

Appendix Table 50. Yukon River District 1 coho salmon commercial gill net catch, age, and sex composition by sample period, 1986.[a]

		Brood Year and Age Group 1983 1.1	1982 2.1	1981 3.1	Total
Stratum Dates:	8/04-8/15				
Sample Dates:	8/05-8/15				
Sample Size:	247				
Female	Percent of Sample	1.6	40.9	4.0	46.5
	Number in Catch	179	4,587	449	5,215
Male	Percent of Sample	1.2	45.0	7.3	53.5
	Number in Catch	135	5,047	819	6,001
Total	Percent of Sample	2.8	85.9	11.3	100.0
	Number in Catch	314	9,634	1,268	11,216
	Standard Error	118	249	226	
Stratum Dates:	8/18-8/22				
Sample Dates:	8/19-8/22				
Sample Size:	244				
Female	Percent of Sample	0.8	45.5	4.5	50.8
	Number in Catch	109	6,192	611	6,912
Male	Percent of Sample	0.8	45.5	2.9	49.2
	Number in Catch	109	6,192	395	6,696
Total	Percent of Sample	1.6	91.0	7.4	100.0
	Number in Catch	218	12,384	1,006	13,608
	Standard Error	110	250	229	
Stratum Dates:	8/04-8/22				
Sample Dates:	8/05-8/22				
Sample Size:	491				
Female	Percent of Sample	1.2	43.4	4.3	48.9
	Number in Catch	288	10,779	1,060	12,127
Male	Percent of Sample	1.0	45.2	4.9	51.1
	Number in Catch	244	11,239	1,214	12,697
Total	Percent of Sample	2.2	88.6	9.2	100.0
	Number in Catch	532	22,018	2,274	24,824
	Standard Error	164	356	324	

[a] Based on samples from District 1 commercial catch during 6 in (15.2 cm) maximum mesh size gill net fishing periods.

Appendix Table 51. Yukon River District 2 coho salmon commercial gill net catch, age, and sex composition, 1986.[a]

		Brood Year and Age Group 1983 1.1	1982 2.1	1981 3.1	Total
Female	Percent of Sample	1.2	43.4	4.3	48.9
	Number in Catch	254	9,200	911	10,365
Male	Percent of Sample	1.0	45.2	4.9	51.1
	Number in Catch	212	9,581	1,039	10,832
Total	Percent of Sample	2.2	88.6	9.2	100.0
	Number in Catch	466	18,781	1,950	21,197

[a] Based on samples from District 1 commercial catch during 6 in (15.2 cm) maximum mesh size gill net fishing periods.

Appendix Table 52. Yukon River District 3 coho salmon commercial gill net catch, age, and sex composition, 1986.[a]

		Brood Year and Age Group 1983 1.1	1982 2.1	1981 3.1	Total
Female	Percent of Sample	1.2	43.4	4.3	48.9
	Number in Catch	254	9,200	911	10,365
Male	Percent of Sample	1.0	45.2	4.9	51.1
	Number in Catch	212	9,581	1,039	10,832
Total	Percent of Sample	2.2	88.6	9.2	100.0
	Number in Catch	466	18,781	1,950	21,197

[a] Based on samples from District 1 commercial catch during 6 in (15.2 cm) maximum mesh size gill net fishing periods.

Appendix Table 53. Yukon River District 1 coho salmon subsistence gill net catch, age, and sex composition, 1986.[a]

		Brood Year and Age Group 1983 1.1	1982 2.1	1981 3.1	Total
Female	Percent of Sample	1.2	43.4	4.3	48.9
	Number in Catch	33	1,183	117	1,333
Male	Percent of Sample	1.0	45.2	4.9	51.1
	Number in Catch	27	1,231	134	1,392
Total	Percent of Sample	2.2	88.6	9.2	100.0
	Number in Catch	60	2,414	251	2,725

[a] Based on samples from District 1 commercial catch during 6 in (15.2 cm) maximum mesh size gill net fishing periods.

Appendix Table 54. Yukon River District 2 coho salmon subsistence gill net catch, age, and sex composition, 1986.[a]

		Brood Year and Age Group 1983 1.1	1982 2.1	1981 3.1	Total
Female	Percent of Sample	1.2	43.4	4.3	48.9
	Number in Catch	110	3,966	393	4,469
Male	Percent of Sample	1.0	45.2	4.9	51.1
	Number in Catch	91	4,132	448	4,671
Total	Percent of Sample	2.2	88.6	9.2	100.0
	Number in Catch	201	8,098	841	9,140

[a] Based on samples from District 1 commercial catch during 6 in (15.2 cm) maximum mesh size gill net fishing periods.

Appendix Table 55. Yukon River District 3 coho salmon subsistence gill net catch, age, and sex composition, 1986.[a]

		Brood Year and Age Group 1983 1.1	1982 2.1	1981 3.1	Total
Female	Percent of Sample	1.2	43.4	4.3	48.9
	Number in Catch	9	339	34	382
Male	Percent of Sample	1.0	45.2	4.9	51.1
	Number in Catch	8	353	38	399
Total	Percent of Sample	2.2	88.6	9.2	100.0
	Number in Catch	17	692	72	781

[a] Based on samples from District 1 commercial catch during 6 in (15.2 cm) maximum mesh size gill net fishing periods.

Appendix Table 56. Yukon River coho salmon samples by age, sex, and length (mm), collected in 1986 but not used to estimate fishery catch or escapement age compositions.[a]

Location, Gear, and Date	Sex	Total		Age 1.1			Age 2.1			Age 3.1		
		N	%	N	%	Length	N	%	Length	N	%	Length
Big Eddy[b]	Female	4	57.1	1	14.3	615	3	42.9	550	0	0.0	-
6 in Gill Net	Male	3	42.9	0	0.0	-	3	42.9	582	0	0.0	-
7/31-8/04	Total	7	100.0	1	14.3		6	85.7		0	0.0	
Middle Mouth[b]	Female	18	40.0	3	6.7	542	15	33.3	571	0	0.0	-
6 in Gill Net	Male	27	60.0	2	4.4	560	24	53.3	567	1	2.2	635
7/20-8/27	Total	45	100.0	5	11.1		39	86.7		1	2.2	
Ruby NB[c]	Female	1	25.0	0	0.0	-	1	25.0	540	0	0.0	-
Fish Wheel	Male	3	75.0	0	0.0	-	3	75.0	472	0	0.0	-
8/17-9/06	Total	4	100.0	0	0.0		4	100.0		0	0.0	
Ruby SB[c]	Female	215	34.3	7	1.1	546	205	32.7	542	3	0.5	540
Fish Wheel	Male	412	65.7	19	3.0	531	374	59.6	532	19	3.0	531
8/18-9/23	Total	627	100.0	26	4.1		579	92.3		22	3.5	
Fairbanks[d]	Female	2	33.3	0	0.0	-	2	33.3	550	0	0.0	-
Comm Fish Wheel	Male	4	66.7	1	16.7	620	3	50.0	575	0	0.0	-
9/13	Total	6	100.0	1	16.7		5	83.3		0	0.0	

[a] Length measured from mid-orbit to fork of tail.
[b] Test fishing project located in District 1 near Emmonak.
[c] Test fishing project located in District 4.
[d] Fishery located in District 6.

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